Dragonetti and Tola deal with five cases of thematic and methodological coincidences between Indian and Western philosophical thought in order to establish that an Indian philosophy with the same expectations and the same weaknesses as those of Western philosophy exists. Thus it is possible to conclude that there is not a "Western thought characterized by rationality and freedom of mind", opposed to an "Indian thought characterized by religiosity and irrationality", but only a "Universal philosophical thought". The method of presenting the evidence is the same applied in their book *On the Myth of the Opposition between Indian Thought and Western Philosophy* (Olms, 2004): the parallel presentation in their original languages of Indian and Western philosophical texts. These five essays are especially concerned with the Nyāya and Vaiśeṣika systems of Indian philosophy.

Carmen Dragonetti, Dr. phil., Lima (Peru), is research fellow of the CONICET *(National Council for Scientific Research,* Argentina*)* and Fernando Tola, Dr. litt., Lima (Peru), was research fellow of the same institution (now retired), both in the highest category. As president and vice-president of the *Institute of Buddhist Studies Foundation*, Argentina, they carry out their research work. They are authors of numerous publications (English and Spanish) on Indian philosophy.

***

Dragonetti und Tola beschäftigen sich mit fünf Fällen der thematischen und methodischen Koinzidenzen zwischen der indischen und westlichen philosophischen Denkweise, um zu zeigen, dass es eine indische Philosophie gibt, die dieselben Erwartungen und Defizite wie die westliche Philosophie hat. Daraus kann man schließen, dass es keine „westliche Denkweise" gibt „die durch Vernunft und Denkfreiheit gekennzeichnet ist", welche einer „indischen Denkweise, die sich durch Religiosität und Irrationalität auszeichnet" entgegengesetzt wird, sondern eine „universelle philosophische Art zu denken". Die Untersuchungsmethode ist dieselbe wie sie auch bereits in dem Werk *On the myth of the Opposition between Indian thought and Western Philosophy* (Olms, 2004) angewendet wurde: Eine Gegenüberstellung der jeweiligen indischen und westlichen philosophischen Texte im Original. Diese fünf Essays betreffen vor allem die Nyāya- und Vaiśeṣika-Systeme der indischen Philosophie.

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Fernando Tola

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Contents

Preface XV

Chapter I

The fundament of the ontological proof and Bhartṛhari

Introduction 1

The ontological proof and the cultural dogmas 2

The ontological proof in the West 4

Refutation of the ontological proof: Gaunilo, Saint Thomas, Kant 6

The distinction in intellectu / in re *in Bhartṛhari* 13

The ontological proof and its consequences for Indian theism 16

References 17

Chapter II

Indian and Western theories of categories.
Svarūpavattva / entelechy / exsistentia

Introduction 19

I
Aim, nature and criterion of classification of the categories as established by the Indian philosopher Kaṇāda 20

II
Aim, nature and criterion of classification of the categories as established by Aristotle 24

III
The primacy of language in cognition: Bhartṛhari, Hobbes and Leibniz 31

IV
Kinds of words used in the theory of categories: the Vaiśeṣika system, Bhartṛhari and Aristotle 34

V
Truth and falsity in categories 35

VI
The notions of astitva *in Vaiśeṣika theory of categories,* οὐσία / εἶδος / ἐντελέχεια *in Aristotle, and* exsistentia *in Marius Victorinus* 38

Conclusions 45

References 47

Chapter III

Aristotle and Praśastapāda on the genesis of the *universals*

Introduction 53

Definition of sāmānya / universal 53

Sāmānya: similarity, commonness 54

Similarity and commonness in Aristotle and Hobbes 56

Genesis of the universals according to Praśastapāda 57

The genesis of the principia prima *and* universals *in Aristotle* 60

Example of Themistius illustrating Aristotle's genesis of the principia prima 63

Final remarks 63

References 68

Chapter IV

On spontaneous generation: Buddhism, Praśastapāda and Aristotle

Introduction 71

I. BUDDHISM
Buddhist texts on spontaneous generation 73

The Majjhima Nikāya *and the* Dīgha Nikāya *Pāli Suttas* 73

The Abhidharmakośa *and the* Mahāvastu-avadāna *Sanskrit texts* 75

Remarks on the previous Buddhist texts 76

Beings born from moisture are born from a cause 76

Karman *as the remote and principal cause of rebirth* 77

Despicable characteristics of beings born from moisture 78

Arising process, examples and places of birth of beings born from moisture 78

The opapātika *(Pāli)/* aupapāduka *or* upapāduka *(Sanskrit) beings* 79

Other conception on the yonis *that seem of later origin* 80

A wrong interpretation of opapātika *and the other related words* 82

II. PRAŚASTAPĀDA
The yonis *theory in Praśastapāda* 83

Remarks on Praśastapāda's text 85

Atheistic and theistic positions on karman *and the union of atoms* 85

Praśastapāda and Gassendi 86

III. ARISTOTLE
Aristotle on spontaneous generation 86

Aristotle's classification of modes of generation 86

Remarks on Aristotle's modes of generation 87

Coincidence between Aristotle fourth group and Buddhist third group 87

Examples of beings produced by spontaneous generation 88

Places where beings produced by spontaneous generation are found 88

Size of beings spontaneously generated 89

First explanation of spontaneous generation in Metaphysics *1034ᵇ4-7:*
Two problematic consequences involved in it 90

Second explanation of spontaneous generation
in De generatione animalium *762ᵃ8-12, and 762ᵃ18-27* 93

A marginal note on Aristotle's animistic approach 96

Third explanation of spontaneous generation
in De generatione animalium *737ᵃ3-5* 97

Fourth explanation of spontaneous generation
in Meteorologica 379ᵇ6-8 97

The problem of the diversity of species in spontaneous generation 98

IV. FINAL REMARKS
Deficiencies, prejudices, mixture of intervening factors
and motives of the research
in the explanation of spontaneous generation 100

Buddhism 102

Praśastapāda 104

Aristotle 105

References 110

Chapter V

Udayana, the Cārvākas, and Hume on causality

Introduction 115

Five Cārvākas' objections to the existence of God.
First reference to the notion of causality 116

Indian notion of cause 117

Buddhist conception of causality
in terms of "invariable concomitance of being and not-being" 118

Galileo's definition of cause 118

The Cārvāka first argument against the existence of God:
The denial of a "supernatural cause" for the "other world" 119

Udayana's reasons for rejecting the Cārvāka first argument
against the existence of God 120

Udayana's first reason for rejecting the Cārvāka first argument against the existence of God: Occasionality of the world as a proof of the necessity of a cause for the world 121

Reference to Dharmakīrti by Udayana's commentator in support of Udayana's assertion on the tight connection between occasionality and causality 124

Whatever comes to existence has a cause. Hume's reference to this matter 126

The Cārvāka's position in regard to occasionality 127

The Cārvāka's denial of causality 127

Vardhamānopādhyāya's information about the Cārvāka's theory of causation 128

Hume on the impossibility of perceiving (senses) and of demonstrating (reason) a relation of causality. Humes's denial of the theoretical validity of the idea of cause 134

Remarks concerning ananyathāsiddhi *and Aristotle* cause per accidens 138

Udayana's refutation of the Cārvāka denial of causality: The five theses implied in this denial. Hume's remarks on hetuniṣedha *and* svavidhi 139

The fifth thesis: the svabhāvavāda or own nature theory 144

Some testimonies on the own nature theory 145

Characteristics of the own nature theory according to the quoted texts 148

The Materialistic and Atheistic Cārvāka doctrines and some parallel accounts in ancient Greece 151

The refutation of the svabhāva theory by Udayana 155

Antecedence of the cause and contiguity of cause and effect in Udayana. Hume on this matter 159

Necessary existence of the cause. Causality according to Udayana 160

The importance of 'niyama' *and* 'anupakāraka' *in Udayana's and in modern Western theories of causation* 168

Udayana's, the Cārvāka's, and Hume's notions of cause/effect relation 171

References 175

For Professor Ernst Steinkellner,
with our admiration for his extraordinary scientific work,
his generosity in the transmission to others
of his knowledge, methods and discipline,
and his openness of mind towards new ideas and new interpretations.

F.T. and C.D.

PREFACE

In the book published for the first time by Georg Olms Verlag of Hildesheim, Germany, in 2004, bearing the title *On the Myth of the Opposition between Indian Thought and Western Philosophy* (in the same collection this present one is published now), we maintain the thesis that the *opposition* between *Thought* for India, characterized by religiosity and irrationality, and *Philosophy* for the West, characterized by rationality and freedom of mind, constitutes a fallacy grounded on ignorance of Indian philosophical thought and on ethnocentric prejudices. This fallacy was specially and authoritatively spread by Hegel and followed by many European philosophers and books on Philosophy and History of Philosophy. In it we hold the opinion that that opposition is *a myth* that deserves to be rejected, since Indian Philosophy and Western Philosophy have many thematic and methodological coincidences, the same pretensions, and the same weaknesses. This rejection can open a new path for Philosophy as such, leaving aside old, strong and too optimistic false European prejudices.

We are of course perfectly aware that Indologists - as Professor Anand Amaladass from India says in his review on the book, published in *Journal of Intercultural Philosophy*, No. 6, August, 2004 - could think that we are "labouring to prove the obvious". Let us say on this respect that for Western philosophical tradition our task is not at all useless. Whosever has studied Philosophy in a Western country knows that even now there are people and books "who still pass judgements on Indian thought without making the effort to examine the extensive literature available", as Professor Amaladass himself affirms in his review, and thus are still maintaining Hegel's opinion denying the existence of an Indian Philosophy as such considering that only European mind could create it.

Ernst Steinkellner, well-known scholar on Indian Philosophy to whom we modestly dedicate this work, in his review of our book in *Wiener Zeitschrift für die Kunde Süd-Asiens*, 2004, pp. 224-225, expresses that scholars in Indian Philosophy have always "*aimed at persuading 'Western' professional philosophers and historians of philosophy of the simple fact that there have been in India rich and manifold traditions of philosophic thought of their own particular nature. A requisite for the success of such hopes was, and is always, that it must especially be known in this 'West' that there have existed in India manifestations which are comparable to the 'philosophic' ideas and problems in the 'West' from Antiquity until modern time*".

Our book had also another intention: not only *to reject the absurd myth*, but also to make evident that for a better understanding of *any philosophical* tradition it is necessary to confront it with other philosophical traditions. This task does not mean at all to reduce one to the other, but on the contrary to have a more profound insight in both of them thanks to their confrontation.

For many Westerners the "discovery" of what Indian philosophical thought in fact is, via the study of its texts and the prodigious labour carried out by Indology and Buddhology, could produce many good effects we pointed out in *Chapter I* of our book: the elimination of an old prejudice, the increase and enrichment of knowledge, and also the self-questioning of Western Philosophy with regard to its own value, not in the limited context of a sole continent but in a much more extensive and universal one. For many Indian scholars in Indology as well as in Philosophy this confrontation of their traditional philosophical ideas with other similar in the West could also help for a better understanding of their own traditions in a larger context.

Let us remind here the wise advice of the great philosopher Bhartṛhari we admire so much:

prajñā vivekaṃ labhate bhinnair āgamadarśanaiḥ /
kiyad vā śakyam unnetuṃ svatarkam anudhāvatā //

"Intelligence acquires the faculty
of distinguishing and classifying things
according to their real properties
through the study of different systems of thought
transmitted by tradition.
How can a man,
limiting himself to his own reasoning,
make it progress?"

We would like to extend here the expression of our deep thanks to the following institutions for their varied support: first and foremost to the *John Simon Guggenheim Memorial Foundation* of United States of America that granted Carmen a *Fellowship Award, 2004* for continuing our Project of the comparative study of both, Indian and Western Philosophies, what we are actually doing with other systems of Indian Philosophy. Results of this work in the last years have been: *Filosofía Yoga: Un Camino Místico Universal* (on Indian Philosophy and Christian Mysticism), a book in Spanish published by Kairós, in Barcelona, Spain, in 2006; *Filosofía de la India. Del Veda al Vedānta. El sistema Sāṃkhya*, another book in Spanish on the origins of Indian Philosophy, the exposition of some of the

Vedānta systems and of the *Sāṃkhya system*, also published in Spanish by Kairós, in Barcelona, Spain, in 2008.

Now in the same comparative perspective we are presenting here in this volume five essays on Indian Philosophy that concern specially the *Vaiśeṣika system* and Western Philosophy.

Fernando Tola and Carmen Dragonetti

Buenos Aires, October 20, 2008
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CHAPTER I

THE FUNDAMENT OF THE ONTOLOGICAL PROOF AND BHARTṚHARI

Introduction

In our books *On the Myth of the Opposition between Indian Thought and Western Philosophy*, *Yoga. Un Camino Místico Universal*, and *Filosofía de la India. Del Veda al Vedānta. El sistema Sāṃkhya. Sobre el mito de la oposición entre "pensamiento" indio y "filosofía" occidental*, we have studied a good number of instances of *thematic* and *methodological coincidences* between Indian and Western philosophies.

The aim of our study is to establish that the opposition of Indian *thought* to Western *thought* constitutes only a *myth* to be rejected; that *Philosophy* indeed did exist in India as it did in the West; and that the comparison of the philosophical themes as developed in India and in the West contributes to a better understanding and appreciation of both of them. The idea that has guided us in this research is that all peoples that have reached in their evolution a similar cultural and intellectual level give similar answers to questions, which are posed to them, whatever be their nature, practical, religious or philosophical.

For the purpose of this comparative study we have given to these general ideas the shape of the four following theses:

1. *Up to the 16th century at least, in India on the one hand and in Greece and Europe on the other, there was frequent reflection on the same philosophical subjects ('thematic coincidences'), and it was carried out in*

the same way ('methodological coincidences'). In support of this thesis we have quoted in original and translation many Indian and Western texts containing the same or similar philosophical ideas.

2. *In the history of Greek and European philosophies, are found manifestations of irrationality, limitations in the exercise of the free use of reason and submission of philosophical thinking to interests or purposes alien to philosophy, in many forms and as numerous as they are in the history of Indian thought.*

3. *Philosophy did exist in India as in the West with the same expectations, with the same weaknesses.*

4. *The comparison between Indian and Western philosophical thought must limit itself to confront both as they manifested themselves before the end of the 17th century, or even in the centuries that followed, but in this last case only when and if they maintained certain forms of the philosophies previous to that date, prolonging them.* From the 16th century onwards, a series of factors appeared in the West, as the coming forth of modern science and the modern scientific mind, the discovery of the New World, the increase of European economic and military power, the weakening of ecclesiastical authority and the limitations it imposed on thinking, and the consciousness of the equality of individual rights and liberties. These factors gave a new course to universal history and led to modern culture. From the 17th century onwards, Western culture in all its expressions began to adopt a wholly novel form, which was different from all previously known forms, many times extraordinarily valuable. India was able to take part in this transformation in a profound way only since the middle of the 20th century due to historical circumstances.

The ontological proof and the cultural dogmas

In this Chapter I we deal with the so-called *ontological proof of the existence of God* in Western Philosophy (as proclaimed by Saint Anselm in 11th century) as well as with its refutation by three Western philosophers (Gaunilo, 11th century, Saint Thomas Aquinas, 13th century, and Immanuel Kant, 18th century) that were opposed to it, because it gives us the

opportunity to indicate an interesting point of coincidence between the basis of the rejection of that proof and a principle of Indian thought expounded by Bhartṛhari (6th century), the great Indian philosopher of language.

This point of coincidence is constituted by the distinction between *existence in re* (in reality) and *existence in intellectu* (in mind). We present (in original and in translation) some texts related to the ontological proof and its refutation, and also to the Indian conception in order to make clear the function that this distinction has in them.

Moreover the *ontological proof* gives a good idea of the nature of what we call *cultural dogmas* in our mentioned book. We understand by *cultural dogmas* the fundamental principles, which in general are at the basis of any philosophical thinking in any culture as, for instance, in the West: the existence of God, the immortality of the soul, a first cause, and in India: reincarnations, beginninglessness, and, in both cultures: the absolute value of the Scriptures, either the Bible or the Veda.

These *cultural dogmas* or basic principles in general are not founded in truly valid rational arguments, as it is well-shown by the example of the *ontological proof.* This proof is the very foundation of all the other principal demonstrations of the *existence of God* in the West – the most important *cultural dogma* in the West.

The *ontological proof* obviuously lacks any proving value or at least is of a very precarious or of a not at all indisputable value, and as such has not been universally admitted, and so has been rejected by powerful minds as Saint Thomas or Kant as we shall see later on. Hans Küng, a Catholic priest, Professor of Theology in the University of Tübingen, Germany, in his book *Existiert Gott? Antwort auf die Gottesfrage der Neuzeit* (cf. especially pp. 613-618 of the French edition) has referred honestly and forcefully to the weak credibility not only of the *ontological proof* but also of all the proofs adduced for demonstrating the existence of God. Nevertheless, the Western *cultural dogma* of God, based in arguments which at their turn are based on the *ontological proof,* has possessed at least up to the 17th century an unshakeable general adhesion in common life and has been the ultimate criterion for the acceptance of philosophical theories or ideas by thinkers who do not want to go beyond the orthodox limits.

If we have to discard a rational basis for the *cultural dogmas* we must accept that in a last analysis their true foundation is *faith.* And although *faith* is worthy of all respect and may be the support of human

conduct and philosophical thought, anyhow it does not belong at all to the field of *rational* processes, which is claimed to be that of philosophy.

We have purposely begun our study of the distinction *in intellectu / in re* in Bhartṛhari and in the Western thinkers with these last ones although such a procedure goes against chronology.

We think that to show first the great and lasting interest granted in the West to the *ontological proof* imagined by Saint Anselm for demonstrating the existence of God notwithstanding its evident rational weakness as it overlooks the essential distinction between *existence in intellectu* and *existence in re*, and then to oppose to that the clear and direct way in which Bhartṛhari, five centuries before Saint Anselm, refers to the distiction *existence in intellectu/existence in re* with full awareness of their essential opposition and presenting it as an obvious rational principle that cannot be left aside, allows a better appreciation of the merit, importance and modernness of Bhartṛhari's thought in the history of philosophy.

Moreover the vitality that has had in the West the acceptance of the *ontological proof* disregarding the fact that it is not logically possible to derive the existence in reality from the mere existence in mind – in order to maintain at any cost a *cultural dogma* or basic principle, God, to which philosophers were traditionally attached by faith – is another instance of the thesis we put forward in our mentioned book that irrationality has been so strong in the West as in India, even inside Philosophy.

Thus the comparative study of Indian philosophical ideas with Western ones permits a better understanding and evaluation of Western as well as of Indian intellectual products.

At the end of this chapter we briefly refer to the important consequences that the application of the Western *ontological proof* to some Indian beliefs has for both the proof itself and the Indian beliefs. This is an example of the usefulness or even necessity to compare Western philosophical thought and Indian philosophical thought, eliminating the barrier that ethnocentric prejudices have built between them.

The ontological proof in the West

The *ontological proof*, also called "*proof of Saint Anselm*" or "*Cartesian proof*", has no correspondence at all in Indian philosophy that notwithstanding developed several proofs of the existence of the *Īśvara* (God).[1]

Saint Anselm's famous *ontological proof* of the existence of God amounts to affirm that God is that Being more perfect than which nothing can be thought, i. e. He is by definition the most perfect being; to exist is more perfect that not to exist; to exist is a perfection; consequently, God cannot be only an idea; God must really exist; God must possess the perfection of a real existence; otherwise another Being as perfect as He, and besides that really existing, could be thought; in this last case God would not be that Being more perfect than which nothing can be thought, what is contradictory to the first assertion.

This proof had numerous defenders among outstanding philosophers that admit it although some of them with variants and diverse grounds: Alexander of Hales (1185-1245), Bonaventura (1221-1274), William of de Auxerre (dead in 1231), Duns Scotus (1266-1308), Descartes (1596-1650), Leibniz (1646-1716), Malebranche (1638-1715), Hegel (1770-1831).

The proof had also many opponents, who reject it as Gaunilo (a monk in an Abbey near Tours, who died in 1083), Saint Thomas Aquinas (1225-1274), Gassendi (1592-1655), Locke (1632-1704), Hume (1711-1776), and Kant (1724-1804), for instance.

A. Sertillanges (1863-1948), one of the most active and influential modern neo-Thomist philosophers, in his book *Les grandes thèses de la philosophie thomiste*, p. 55, points out that the evidence of God has been looked for by Saint Anselm "*more philosophically*" but "*a little sophistically*" with the inclusion of *existence* in the *notion* of God itself.

The *ontological proof* was expounded by Saint Anselm (1035-1109) in his Treatise *Proslogion*, Chapter II, Les Éditions du Cerf ed., 1986, pp. 244-246. In this exposition Saint Anselm makes use of the distinction of existence *in re* and existence *in intellectu* but without taking into account that it is not possible to derive the first from the second:[2]

> '*Et quidem credimus te esse aliquid quo nihil maius cogitari possit. An ergo non est aliqua talis natura, quia «dixit insipiens in corde suo: non est deus»? Sed certe ipse idem insipiens, cum audit hoc ipsum quod dico: 'aliquid quo maius nihil cogitari potest', intelligit quod audit; et quod intelligit* ***in intellectu***

[1] On the proofs of the existence of God in Nyāya and Vaiśeṣika philosophical systems of Indian philosophy, see C. Bulcke, *The Theism in Nyaya-Vaisesika, Its Origin and Early Development*, Chapter VI.

[2] The bold type in all the quotations of this chapter is ours.

eius est, etiam si non intelligat illud esse. Aliud enim est rem esse ***in intellectu****, aliud intelligere rem esse. Nam cum pictor praecogitat quae facturus est, habet quidem* ***in intellectu****, sed nondum intelligit esse quod nondum fecit. Cum vero iam pinxit, et habet in intellectu et intelligit esse quod iam fecit. Convincitur ergo etiam insipiens esse vel* ***in intellectu*** *aliquid quo nihil maius cogitari potest, quia hoc cum audit intelligit, et quidquid intelligitur* ***in intellectu*** *est. Et certe id quo maius cogitari nequit, non potest esse* ***in*** *solo* ***intellectu****. Si enim vel* ***in*** *solo* ***intellectu*** *est, potest cogitari esse et* ***in re****, quod maius est. Si ergo id quo maius cogitari non potest, est* ***in*** *solo* ***intellectu****: id ipsum quo maius cogitari non potest, est quo maius cogitari potest. Sed certe hoc esse non potest. Existit ergo procul dubio aliquid quo maius cogitari non valet, et* ***in intellectu*** *et* ***in re****.'*

"And indeed we believe that You are something greater than which nothing can be thought. Or such a nature does not exist, because <the fool said in his heart: God does not exist>? [Psalm 14, 1; 53, 1]. But certainly when this same fool hears what I say: 'Something greater than which nothing can be thought', he understands what he hears; and what he understands exists **in** his **intellect**, even if he does not know that that exists. For one thing is that the object exists **in intellect**, and quite another to know that that object exists [**in reality**]. When a painter for example thinks in advance what he is going to do, he certainly has **in** his **intellect** what he has not yet done, but he knows that [that] does not yet exist [**in reality**]. But once he has painted it, he has **in** his **intellect** what he already did, and knows that it exists [**in reality**]. So even the fool is convinced that something greater than which nothing can be thought actually exists **in** his **intellect**, because he understands this when he hears [it], and whatever is understood exists **in** the **intellect**. And certainly that something greater than which nothing can be thought cannot exist only **in intellect**. For if it actually exists only **in intellect**, it can be thought that [that] exists also **in reality** – what would be greater than [that which exists only **in intellect**]. Consequently, if that greater than which nothing can be thought exists only **in intellect**, [then] that greater than which nothing can be thought is [at the same time] something greater than which something can be thought. But that is clearly impossible [since it is contradictory]. Therefore, there is no doubt that something greater than which nothing can be thought exists **in intellect as well as in reality**".

Refutation of the ontological proof: Gaunilo, Saint Thomas, Kant

Many important philosophers in the West have argued, as we have said,

against Saint Anselm's proof. We shall briefly indicate the arguments of three of them reproducing their own words in quotations taken from some passages of their texts: the monk Gaunilo who died in the year 1083, Saint Thomas Aquinas (1225-1274), and Immanuel Kant (1724-1804). All of them in their reasoning against the proof have recourse to the insurmountable distinction *in re / in intellectu*, which become thus the criterion of truth in this matter.

1. The monk Gaunilo, in his small treatise *Quid ad haec respondeat quidam pro insipiente* (included in pp. 288-297 of the First Volume of the quoted edition of Saint Anselm's works) begins his refutation synthesizing Saint Anselm's reasoning for demonstrating the existence of God in this way:

Dubitanti utrum sit vel neganti quod sit aliqua talis natura, qua nihil maius cogitari possit, cum esse illam hinc dicitur primo probari, quod ipse negans vel ambigens de illa iam habeat eam ***in intellectu****, cum audiens illam dici id quod dicitur intelligit; deinde quia quod intelligit, necesse est ut non* ***in*** *solo* ***intellectu*** *sed etiam* ***in re*** *sit, et hoc ita probatur quia maius est esse et* ***in re*** *quam* ***in*** *solo* ***intellectu****, et si illud* ***in*** *solo est* ***intelectu****, maius illo erit quidquid etiam* ***in re*** *fuerit, ac sic maius omnibus minus erit aliquo et non erit maius omnibus, quod utique repugnat; et ideo necesse est ut maius omnibus, quod esse iam probatum est* ***in intelectu****, non* ***in*** *solo* ***intellectu*** *sed et* ***in re*** *sit, quoniam aliter maius omnibus esse non poterit …* (p. 288).

"Someone who either doubts or denies that there is any such a nature greater than which nothing can be thought is told that it is proved that it exists, first because he himself, on denying or doubting about it [= that nature], has already it **in intellect**, since on hearing it spoken of he understands what is said; further, because what he understands must exist not only **in intellect**, but also **in reality**. And this is proved thus: since to exist [**in intellect** and] also **in reality** is greater than [to exist] only **in intellect**, and if that [= the mentioned nature] exists only **in intellect**, [then] greater than that will be whatever also would exist **in reality**. And thus the greater than anything else will be less than something else and will not be greater than everything else [as it has been claimed], which is of course a contradiction. And so what is greater than everything else, which has already been proved to exist **in intellect**, must exist not only **in intellect** but also **in reality**, since otherwise it could not be greater than everything else".

Gaunilo makes then the following remark, where he succinctly expresses the central idea of his refutation:

Nonne et quaecumque falsa ac nullo prorsus modo in seipsis existentia ***in intellectu*** *habere similiter dici possem, cum ea dicente aliquo, quaecumque ille diceret, ego intelligerem?* (p. 288).

"And, could I not also be said to have similarly **in** my **intellect** [ideas corresponding to] things that are false and not existing at all in themselves, since when someone speaks of them, I would understand whatever he could say?"

The fact of a word being understood by somebody, which implies the existence in intellect (*in intellectu*) of an idea, does not guarantee the real (*in re*) existence of the thing designated by that word, i. e. *in intellect* can exist ideas that have false correlates or no correlates at all *in reality*, and that are notwithstanding fully understood.

But the very nucleus of Gaunilo's refutation of Anselm's demonstration of the existence of God is found in sections 5 and 6 of his Treatise, pp. 292-294. Gaunilo's reasoning is as follows:

... ad hoc respondeo: Si esse dicendum est ***in intellectu****, quod secundum veritatem cuiusquam rei nequit saltem cogitari: et hoc in meo sic esse non denego. Sed quia, per hoc, esse quoque* ***in re*** *non potest ullatenus obtinere: illud ei esse adhuc penitus non concedo, quousque mihi argumento probetur indubio. Quod qui esse dicit hoc, quod maius omnibus aliter non erit omnibus maius: non satis attendit cui loquatur. Ego enim nondum dico, immo etiam nego vel dubito ulla re vera esse maius illud, nec aliud ei esse concedo quam illud, si dicendum est 'esse', cum secundum vocem tantum auditam rem prorsus ignotam sibi conatur animus effingere. Quomodo igitur inde mihi probatur maius illud rei veritate subsistere, quia constet illud maius omnibus esse, cum id ego eo usque negem adhuc dubitemve constare, ut ne* ***in intellectu*** *quidem vel cogitatione mea eo saltem modo maius ipsum esse dicam, quo dubia etiam multa sunt et incerta? Prius enim certum mihi necesse est fiat re vera esse alicubi maius ipsum, et tum demum ex eo quod maius est omnibus, in seipso quoque subsistere non erit ambiguum.* (5)

"... to that [argument] I reply: If it must be said that something exists **in intellect** that cannot be thought according to the truth [= true nature] of anything whatever, then I do not deny that this thing exists also **in** my [**intellect**]. But since from this [affirmation of the sole existence **in intellect**] it is not at all possible to infer the existence also **in reality**, [then] I do not concede at all to him [= the opponent] that this thing [that exists only **in intellect**] exists [also **in reality**] until [such an assertion] is proved to me by a not doubtful argument. For he who says: 'That [greater than which nothing can be thought] exists [not only **in intellect** but also **in reality**] since otherwise that which is greater than everything else will not be greater than everything else - he does not fully realize whom he is speaking with. For I do not say - even more, I even deny or doubt - that this [greater than everything else] is greater than any real thing, nor do I concede to it [even] an existence (if it is possible to speak of 'existence') different from that [existence one has in mind] when the soul tries to imagine from a word that has been only heard a thing completely unknown to it. How, then, is it proved to me that this greater [than everything else] really exists simply because is greater than everything else, when until this moment I am denying or doubting that this [greater than everything else] has been established, so that I do not [even] say that this greater than everything else exists **in** my **intellect** or **in** my **thought** even in the way that many doubtful and uncertain things exist [**in** my **intellect**]? For it is necessary that first I become certain that this greater [than everything] exists somewhere **in** true **reality**, and only then, due to the fact that it **is** greater than everything else, it will not be doubtful that it also exists in itself."

Next Gaunilo gives his well-known example of the "Lost Island" in order to make clear his thought and ridiculing the position of a sustainer of such a proof:

Aiunt quidam alicubi oceani esse insulam, quam ex difficultate vel potius impossibilitate inveniendi quod non est, cognominant aliqui 'perditam', quamque fabulantur multo amplius quam de fortunatis insulis fertur, divitiarum deliciarumque omnium inaestimabili ubertate pollere, nulloque possessore aut habitatore universis aliis quas incolunt homines terris possidendorum redundantia usquequaque praestare. Hoc ita esse dicat mihi quispiam, et ego facile dictum in quo nihil est difficultatis intelligam. At si tunc velut consequenter adiungat ac dicat: non potes ultra dubitare insulam illam terris omnibus praestantiorem vere esse alicubi in re, quam et in intellectu tuo non ambigis esse; et quia praestantius est, non in intellectu solo sed etiam esse in re; ideo sic eam necesse est esse, quia nisi fuerit, quaecumque alia in re est terra, praestantior illa erit, ac sic ipsa iam a te praestantior intellecta praestantior non erit; - si inquam per haec ille mihi velit astruere de insula illa quod vere sit ambigendum ultra non esse: aut iocari illum credam, aut nescio quem stultiorem debeam reputare, utrum me si ei concedam, an illum si se putet aliqua certitudine insulae illius essentiam astruxisse, nisi prius ipsam praestantiam eius solummodo sicut rem vere atque indubie existentem nec ullatenus sicut falsum aut incertum aliquid in intellectu meo esse docuerit." (6)

"Some say that somewhere in the ocean exists an island, which, because of the difficulty or rather impossibility to find what does not exist, some call '[The]

Lost [Island]'. And they narrate that this island thrives much more than what it is said of the Blessed Islands with an inestimable abundance of riches and delights, and that, not having possessor or inhabitant, it is superior to all the other lands that human beings inhabit, because of the redundancy of all things worthy to be possessed. If somebody tells me that it is so, I will easily understand what he says – in this there is no difficulty. But if then, as it were a logical consequence, he would add and say: 'You cannot any longer doubt that this island, more pre-eminent than all other lands, and which you do not doubt to exist **in** your **intellect**, truly exists somewhere **in reality**. And, since to exist not only **in intellect** but also **in reality** is more pre-eminent [than to exist only **in intellect**], therefore, this island must exist so [= also **in reality**], because if it did not exist [also **in reality**], any other land which exists also **in reality** will be more pre-eminent than it; and thus this same [island], which has been recognized by you to be the most pre-eminent, will not be the most pre-eminent.' If – I say – by these [arguments] he would try to demonstrate to me that, in regard to this island, it is not possible to doubt anymore that it truly exists: either I would think he is joking or I do not know whom I ought to think more foolish, myself if I accept [his proof], or him, if he thinks that he has demonstrated with any certainty the existence of that island, without having instructed me before that the pre-eminence of that [island] exists **in** my **intellect** as a real and undoubtedly existing thing only, and not at all as something false and uncertain."

2. Saint Thomas Aquinas, the most prominent philosopher in the European Middle Age, did not accept the *ontological proof* for establishing the existence of God. As it is said by Battista Mondin of the Pontificia Università Urbaniana, in his article "L'argomento <ontologico> nella metafisica dell'essere di San Tommaso d'Aquino", included in the book *L'argomento ontologico*, pp. 161-171:

> "*It is something universally admitted that Saint Thomas is resolutely against the ontological argument of the Anselmian type, argument that intends to prove the existence of God starting from the definition of His essence (*id cuius maius cogitari nequit*). According to Saint Thomas this way of proceeding is incorrect, because it is founded on the false assumption that human reason has a pure (and not simply nominal) concept of the divine essence even before it has known His existence*".

Saint Thomas, in his *Summa Theologiae*, *Prima Pars*, *Qu.* 2, A, I (*Resp. ad secundum*), expresses his idea on the ontological argument limiting his criticism to two aspects of that argument, which he clearly distinguishes – in terms expressed by Herwy Rikhof, of the University of Nijmegen, in his article "Aquinas and the « ratio Anselmi ». A theological analysis of Aquinas' criticism", included in the already quoted work *L'argomento ontologico*, p. 137:

1. "... not everybody does understand that the word *God* means *that greater than which nothing can be thought*", and

2. "The logical argument that from thinking something it does not follow its existence in reality, but only its existence in the mind."

Saint Thomas declares thus:

> *... dicendum quod forte ille qui audit hoc nomen* Deus, *non intelligit significari aliquid quo maius cogitari non possit, cum quidam crediderint Deum esse corpus. Dato etiam quod quilibet intelligat hoc nomine* Deus *significari hoc quod dicitur, scilicet illud quo maius cogitari non potest; non tamen propter hoc sequitur quod intelligat id quod significatur per nomen, esse* ***in rerum natura****; sed* ***in apprehensione intellectus*** *tantum. Nec potest argui quod sit* ***in re****, nisi daretur quod sit* ***in re*** *aliquid quo maius cogitari non potest: quod non est datum a ponentibus Deum non esse.*

> "... it must be said that perhaps he who hears this word *God*, does not understand that it means something greater than which nothing can be thought, since some have believed that God is a body. Even if it is conceded that anybody understands that by this word *God* is meant that what it is said: i.e. that greater than which nothing can be thought, nevertheless from this fact does not follow that anybody thinks[3] that what is signified by the word exists **in the nature of things** - but only **in the intellect's comprehension**. It is not possible to argue that it exists **in reality**, unless it is [previously] proved that something greater than which nothing can be thought exists **in reality**, what is not accepted by those who affirm that God does not exist".

3. Immanuel Kant (1724-1804) all along his work was interested in the problem of the *ontological proof* of the existence of God and dedicated to it many pages of his books, always adopting in relation to it a rejecting attitude, in which is prevalent, as in Gaunilo and Saint Thomas, the contraposition of *existence in intellectu* and *existence in re.* Kant also makes

3 Battista Mondin, *op. cit.*, p.161, translates: *non segue ... la persuasione*: "does not follow ... the conviction".

manifest the absurd consequences that derive from the intent of passing just like that from the *existence in intellectu* to the *existence in re.*

We quote and translate some passages of Kant concerning this subject, taken from his treatises *Kritik der reinen Vernunft* and *Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes*:

[a] Kritik der reinen Vernunft, p. 662 Meiner ed. = A 583-584: Ungeachtet dieser dringenden Bedürfnis der Vernunft, etwas vorauszusetzen, was dem Verstande zu der durchgängigen Bestimmung seiner Begriffe vollständig zum Grunde liegen könne, so bemerkt sie doch das Idealische und bloss Gedichtete einer solchen Voraussetzung viel zu leicht, als dass sie dadurch allein überredet werden sollte, ein blosses Selbstgeschöpf ihres Denkes sofort für ein wirkliches Wesen anzunehmen...

[a] "Notwithstanding this urgent necessity of reason of presupposing something [i.e. an Absolute Being, God] that could fully serve the understanding as a ground for the complete determination of its concepts [in order not to incur in a *regressus ad infinitum*], however reason notices **the idealistic** and **merely fictitious** [nature, i.e. existing only ***in intellect***] of such a presupposition too easily to be persuaded by that alone to assume as **an actual being** [existing ***in reality***] a **mere creation of its own thinking** [existing only ***in intellect***]..."

[b] *Kritik der reinen Vernunft*, p. 668 Meiner ed. = A 592: *Mann siehet aus dem bisherigen leicht: dass der Begriff eines absolut notwendigen Wesens* ***ein reiner Vernunftbegriff****, d. i.* ***eine blosse Idee*** *sei, deren* ***objective Realität*** *dadurch, dass die Vernunft ihrer bedarf, noch lange nicht Bewiesen ist ...*

[b] "From what precedes it is easily seen that the concept of an absolutely necessary being [= God] [that reason needs, looks for and constructs] is **a pure concept of reason**, i.e. **a mere idea** [existing ***in intellect***], whose **objetive reality** [= existence ***in reality***] is not at all proved by the fact that reason needs it ..."

[c] *Kritik der reinen Vernunft*, p. 675 Meiner ed. = A 601: *Unser* ***Begriff*** *von einem Gegestände mag also enthalten, was und wie viel er wolle, so müssen wir doch aus ihm heraugehen, um diesem die* ***Existenz*** *zu erteilen.*

[c] "Our **concept** of an object may thus contain whatever and however much it wants, nevertheless we must go out of it in order to provide it with **existence**".

[d] *Kritik der reinen Vernunft*, p. 676 Meiner ed. = A 602: *Es ist also an dem so berühmten ontologischen (cartesianischen) Beweise, vom Dasein eines höchten Wesens, aus* ***Begriffen****, alle Mühe und Arbeit verloren, und ein Mensch möchte wohl eben so wenig aus* ***blossen Ideen*** *an Einsichten reicher werden, als ein Kaufmann an Vermögen, wenn er um seinem Zustand zu verbessern, seinem Kassenbestande einige Nullen anhängen wollte.*

[d] "Thus, all effort and labor given to this famous ontological (Cartesian) proof of the existence of a Supreme Being from **concepts** is lost, and a person could from **mere ideas** become richer in insight, not much more than a merchant in money, if he, in order to improve his economic situation, would add a few zeros to his cash balance".

[e] *Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes*, p. 730 Suhrkamp ed. = pp. A 191-192: *Indessen haben wir einen berühmten Beweis, der auf diesen Grund erbauet ist, nämlich den so gennanten Kartesianischen. Man erdenket sich zuvörderst einen* ***Begriff*** *von einem möglichen* ***Dinge****, in welchem man alle wahre Vollkommenheit sich vereinbart vorstellt. Nun nimmt man an, das* ***Dasein*** *sei auch eine Vollkommenheit der Dinge; also schliesst man aus der Möglichkeit eines vollkommensten Wesens auf seine* ***Existenz****. Eben so könnte man aus dem* ***Begriffe*** *einer jeden Sache, welche auch nur als die vollkommenste ihrer Art vorgestellt wird, z. E. daraus allein schon dass eine vollkommenste Welt zu gedenken ist, auf ihr* ***Dasein*** *schliessen.*

[e] "However, we have a famous proof, which is based on that principle [= from the **concept** of something possible its **existence** is deduced], i. e. the so-called Cartesian [proof]. One conceives firstly the **concept** of a possible **thing** in which one imagines that all true perfection is reunited. Now one assumes that **existence** is also a perfection of things, so from the possibility of a most perfect being one deduces its **existence**. Equally from the **concept** of anything, which is also imagined as the most perfect of its kind – as for instance, only from the fact that a most perfect world is thought - one could deduce its **existence**".

The distinction in intellectu / in re *in Bhartṛhari*

As it is seen in the texts quoted in the previous sections, the central point of the problem of the *ontological proof* and its refutation lies in the admission of two types of existence, one *in intellectu* and the other *in re*, and in the

impossibility to pass from the first to the second one without an adequate proof. The opposition of these two types of existence constitutes the ground for the construction of the *ontological proof* and its rejection.

It is interesting to remind what Bhartṛhari (6th century A.D.), says in relation to the same subject of the two levels of existence. For Bhartṛhari this distinction between both types of existence is an obvious fact, which constitues a fundamental principle of rational philosophical thinking outside any theological preoccupation.

According to Bhartṛhari, in his *Vākyapadīya, Sambandha-samuddeśa* 39-51, there are two types of existence (*sattā*), one the "principal" (*mukhya*), "direct" (*saṃprati*), "external" (*bāhya*) existence, which corresponds to the things of the external world, and the other, the "secondary" or "metaphorical" (*aupacāriki, upacāra°*) existence of all what is expressed by the words. The commentator Helārāja *ad Sambandha-samuddeśa* 48, III, 1, p. 158, line 10, K. A. Subramania Iyer ed., gives to this second type of existence the epithet of *bauddha*, "mental". Bhartṛhari's "principal existence" is the "existence *in re*" of Western philosophers, the "metaphorical existence" is the "existence *in intellectu*".

We give the text and the translation of the *kārikās* III, 3 (*Sambandha-samuddeśa*), 39 and 50 d-51, of Bhartṛhari's *Vākyapadīya*, which have to do with this subject:

vyapadeśe padārthānām anyā sattaupacārikī /
sarvāvasthāsu sarveṣām ātmarūpasya darśikā //39//

"When something is named,
there is another existence, the metaphorical one,
which is proper of things designated by words;
it shows the form of all things in all situations" //39//

Bhartṛhari in *Sambandha-samuddeśa, kārikās* 49, 50 and 51 refers to the metaphorical existence (*aupacārikī*) pointing out in *kārikās* 49 and 50 some of its characteristics. But the *kārikās* 50 d and 51 are those which directly have to do with the subject of the distinction between existence *in intellectu* and existence *in re*:

... *aupacārikīm* //50//
etāṃ sattāṃ padārtho hi na kaścid ativartate /
sā ca sampratisattāyāḥ prithag bhāṣye nidarśitā //51//

"Nothing expressed by a word
can go beyond this metaphorical [or mental] existence.
And in the *Bhāṣya* it has been taught
that it is different from the principal existence" //50 d-51//

The existence to which this stanza refers (*etaṃ sattām*) is, as we said, the *aupacārikī* or "metaphorical" existence that Bhartṛhari characterizes in *kārikās* 49 and 50 attributing to it several epithets. The notion or idea that a word expresses can never pretend to have an existence other than the metaphorical one, i.e. *in intellectu*; it is obliged to remain within the limits of mere "metaphorical", "secondary" or "mental" existence, which by essence corresponds to it. Obviously, the "principal" or "external" *in re* existence can be attributed to the object, which is expressed by the notion or idea the word refers to, *if and only* if those who affirm that existence adduce solid arguments with that purpose – as the commentator Helārāja expresses in his introductory remarks to *kārikās* 40 and 41.

The existence of something (for instance: God) *in intellectu* does not guarantee by itself alone its existence *in re*. The existence of God or any other existence supposed to be *in re* would have to be demonstrated by other means of proof, and not only by the fact that the corresponding notion or idea exists *in intellectu*.

Bhartṛhari in *kārikā* 51 c-d and Helārāja in the beginning of his commentary *ad locum* indicate that the foundation of the theory of the two types of existence is found in the *Mahābhāṣya* or "Great Commentary" (as the *kārikā* says: "*in the Bhāṣya*"), written by Patañjali around 150 B.C.[4] Let us add, as another, more ancient, antecedent in India of the distinction between the existence *in intellectu* and the existence *in re*, the Buddhist distinction (that appears in the oldest Buddhist texts) between an existence *dravyataḥ* ("as a real entity"), and an existence *prajñaptitaḥ* ("as [a mere] concept", i.e. "without objective reality") that correspond, the first, to the

4 The *Mahābhāṣya* is a commentary of the *Aṣṭādhyāyī*" or "The eight chapters", the masterly analysis of the Sanskrit language done by Pāṇini in the 5th or perhaps 6th century B.C., as well as of Kātyāyana's *Vārttikas* (between 250 B.C. and Patañjali's date). The *Vārttikas* are technical remarks on the Aphorisms (*Sūtras*) of Pāṇini. The three mentioned authors are eminent representatives of the great linguistic Indian tradition, which has had no comparison in Western Antiquity. See Harmut Scharfe, *Grammatical Literature*, Wiesbaden: Otto Harrassowitz, 1977. Vol. V, Fasc. 2 of *A History of Indian Literature* edited by Jan Gonda; F. Tola y C. Dragonetti, "Los estudios lingüísticos en la India Antigua I", in *Argos* 25 (2001), pp. 127-150, and "Los estudios lingüísticos en la India Antigua II"(Pāṇini), in *Argos* 26 (2002), pp. 159-185.

principal, external, *in re* existence, the second, to the secondary, metaphorical, mental, *in intellectu* existence, in Bhartṛhari.[5]

The ontological proof
and its consequences for Indian theism

For Hindus Śiva for some, Viṣṇu for others, is the Supreme Being, conceived by Indian philosophy and religion as the most pre-eminent and excellent God, endowed with all the possible perfections in their utmost degree, enhanced with the most excellent qualities, infinite, omnipotent, omniscient, etc.[6]

Applying the reasoning of the *ontological proof*, utilized in the West for demonstrating the existence of God, to the Supreme Being as conceived in Indian philosophy – either under the name of Śiva or under the name of Viṣṇu - one could affirm that Śiva and/or Viṣṇu conceived as Beings endowed with all the perfections, must possess, among these, also that of *real existence*. This conclusion cannot be but disturbing for any monotheist religion or culture, which pretends that its God not only *exists* but *is unique*.

Similarly, as in the cases of the examples imagined by Gaunilo (*The Lost Island*), and by Kant (*eine vollkommenste Welt*, "a most perfect world"), previously referred to, the *real existence* of the magnificent worlds or paradises of Viṣṇu or Śiva conceived as the most excellent of their kind, ought to be admitted, if one accepts the *ontological proof* as a valid argument for establishing the existence of anything that is conceived as the most perfect or pre-eminent in its kind.

These consequences of the *ontological proof*, when applied to religious beliefs outside the limits of Christian world, should be taken into account together with the logical and epistemological reasons that are adduced when one examines the validity of that "proof".

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5 Cf. pp. XXXII-XXXIV of the Introduction of our book *Being as consciousness*.

6 See C. Bulcke S.J., *The Theism of Nyaya-Vaisesika, Its Origin and Early Development*.

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CHAPTER II

INDIAN AND WESTERN THEORIES OF CATEGORIES. *SVARŪPAVATTVA / ENTELECHY / EXSISTENTIA*

Introduction

In this chapter we study some astonishing coincidences between the Indian *theory of categories* as explained by the Vaiśeṣika School of Philosophy and the Western *theory of categories* according to the Greek philosopher Aristotle.

The Vaiśeṣika School of Indian Philosophy is one of the six orthodox principal philosophical systems of India together with the Pūrva Mīmāṃsā, the Sāṃkhya, the Yoga (associated to the Sāṃkhya), the Vedānta, and the Nyāya (associated to the Vaiśeṣika). Principal theories of the Vaiśeṣika School are the theory of *categories of reality* (ontology) and the *atomistic theory.*

Our idea is that the coincidences that we are pointing out between Indian and Western Philosophy are due to the nature of human mind: when it has been philosophically well-trained and it has to explain certain facts, or has to create philosophical or religious explanations of certain facts, it *naturally* and *in an almost compulsory way* poses the same or identical problems and gives them the same solutions, which it finds adopting the same methods of research and reflection.[1]

[1] In our book edited by Olms Verlag, *On the Myth of the Opposition between Indian 'Thought' and Western 'Philosophy* (forthcoming Indian edition by Motilal Banarsidass), to which we have referred in detail in the beginning of Chapter I of this book, we have

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Our idea is that the coincidences that we are pointing out between Indian and Western Philosophy are due to the nature of human mind: when it has been philosophically well-trained and it has to explain certain facts, or has to create philosophical or religious explanations of certain facts, it *naturally* and *in an almost compulsory way* poses the same or identical problems and gives them the same solutions, which it finds adopting the same methods of research and reflection.[1]

In our book edited by Olms Verlag, *On the Myth of the Opposition between Indian 'Thought' and Western 'Philosophy'* (forthcoming Indian edition by Motilal Banarsidass), to which we have referred in detail in the beginning of Chapter I of this book, we have

However, it seems to us that *perhaps* in the case of the *theories of categories*, it is possible to ask whether there has not been a Greek influence on Indian thought. This is, at least, an interesting hypothesis not contradicted by the available evidence, as for instance, the existence of an Indian text referring to categories (*padārtha*) previous to Aristotle's date, and rather encouraged by the astonishing coincidences we point out in this article, and by some external facts, which renders it plausible. Among the external facts the following ones can be mentioned: the presence of Greeks in India since Alexander; the existence of Greek kings in India; the Greek influence in the technical fields of astronomy and astrology in the first centuries of the Common Era (cf. David Pingree's *Jyotiḥśāstra* and his edition of the *Yavanajātaka* of Sphujidhvaja); the late dates of composition of the *Vaiśeṣikasūtras* (200 B.C.-beginning of the Common Era) and of the *Nyāyasūtras* (200 A.D.-450 A.D.); and the diverse facts mentioned by Sylvain Lévi in his *Quid de Graecis veterum Indorum monumenta tradiderint*, and by Le Comte Goblet D'Alviella in *Ce que l'Inde doit à la Grèce. Des Influences Classiques dans la Civilisation de l'Inde.*

I

Aim, nature and criterion of classification of the categories as established by the Indian philosopher Kaṇāda

1. Vyomaśiva (10th century) in his commentary *Vyomavatī* to the work of Praśastapāda, and Udayana, in his *Kiraṇāvalī*, also a commentary to the same work, inform us on the purpose of Kaṇāda[2] for establishing his theory of categories. Vyomaśiva, p. 47, lines 13-14, Chaukhamba ed., says:

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analyzed many other coincidences of Philosophical Thought between Indian and Western systems.

[2] On Kaṇāda traditionally considered as the founder of the Vaiśeṣika system and the author of the *Vaiśeṣikasūtras* see B.K. Matilal, *Nyāya-Vaiśeṣika*, and on the Vaiśeṣika system in general the articles of Kuno Lorenz "Vaiśeṣika", in *Enzyklopädie Philosophie und Wissenschaftstheorie* Band 4, pp. 469-471, and of K. Preisendanz, "Vaiśeṣika", in *Historisches Wörterbuch der Philosophie*, Band 11, col. 540-542.

yad iha bhāvarūpaṃ tad sarvaṃ mayopasaṃkhyātavyam iti pratijñā muneḥ:

"'All that in this world has the nature of existent is to be enumerated by me' – this was the affirmation of the Sage [Kaṇāda]."

Udayana (between 1025-1100), *Kiraṇāvalī*, p. 148, Baroda ed., in a similar way expresses:

sarvārthopadeśapravṛttena maharṣiṇā pratijñātaṃ hi tena yad bhāvarūpaṃ tad sarvam abhidhāsyāma iti:

"This Great Riṣi [Kaṇāda], purposing to point out all things, affirmed: 'We will tell all that has the nature of existent'."

Śrīdhara Bhaṭṭa (*floruit* 991), *Nyāyakandalī*, p. 31, Vadodara ed., explaining why Praśastapāda (450-500 A.D.) affirms that there are only nine substances (*dravya*), also refers to the purpose of the founder of the Vaiśeṣika School when he established his system of categories:

... tebhyo navabhyo vyatirekeṇa sarvajñena maharṣiṇā sarvārthopad-eśāya pravṛttenānyasya daśamasya saṃjñānabhidhānāt:

"... because beyond these nine [substances] [mentioned by Praśastapāda in his text] the great omniscient sage [Kaṇāda,], purposing to point out all things, did not mention the name of another, a tenth one."

2. Kaṇāda in order to construct his inventory and classification of the existing things had necessarily to deal with *things* (existents, entia) and their similarities, the *words* that designate the things, and the *concepts* that correspond to these words - *all of them* tightly related among themselves. His system of categories may be said to be either of things or of concepts or of words. In the Sanskrit term *padārtha*, used for designate the "categories", and whose literal meaning is "the meaning of a word", "that which corresponds to the meaning of a word", "a thing", "material object" (with which it is frequently employed) are involved all these elements: as a whole, *padārtha* (*pāda* + *artha*), designates a *thing*; *°artha*, refers to the meaning, notion or *concept* (covered by a word, and that corresponds to a thing), and *pada°* refers to the *word* (connected with a concept related to a thing).[3]

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[3] Cf. Kālidāsa, *Raghuvaṃśa* I, 1: *vāgarthāviva saṃpṛktau.*

3. We can add that Kaṇāda deals also with the possible predicates of things. In the *Vaiśeṣika* system each of the six *padhārthas* or categories receives a name: "substance" (*dravya*), "quality", (*guṇa*), etc. This name applies as a predicate to all the components of each category: in *Vaiśeṣikasūtras* I, 1, 5 all the existents that belong to the category *dravya* (*pṛthivī*, "earth", etc.) are named "*dravyāṇi*", "substances"; in I, 1, 6 all the "qualities" (*rūpa*, "form-color", etc.) are named "*guṇāḥ*"; in I, 1, 7 all the kinds of movements (*utkṣepaṇa*, "upward movement", etc.) that belong to the category "movement" (*karman*) are named "*karmāṇi*", "movements". The nature of predicate possessed by the *padārthas* is clearly explained by Praśastapāda in p. 41 of his treatise. He points out as a characteristic common to all of them the "predicability" (*abhidheyatva*) and Śrīdhara glosses this term by *abhidhānapratipādanayogyatva*: "the capacity of attributing a predicate or name".

Gaṅgānātha Jhā in his translation of the *Padārthadharmasaṅgraha*, p. 37, explains that "*predicability – is the capability of being expressed in words*"; Durgādhara Jhā in his Hindi translation of the same work (in Praśastapāda, p. 41, Varanasi ed.), expresses that *abhidheyatva* signifies *śabda se kahe jāne kī kṣamatā*: "the capability of being expressed by words"; and Halbfass, *On Being and What There is*, p. 77, translates *abhidheyatva* by "nameability" and "denotability". We think that this interpretation is wrong. We understand that this characteristic, *abhidheyatva*, does not mean that the category may receive a name or an attribute, but that it is able to provide the individuals, whose universal it is, with a predicate, i.e. its own name. We ground our interpretation in that Śrīdhara himself manifests that "this" (*tat*), the predicate or name (*abhidhāna*) provided by the category, is also (as the existence) the *svarūpa* or "own form" *of the thing* (*tac ca vastunaḥ svarūpam eva*). Moreover the term *pratipādana*, used by Śrīdhara in the compound denotes, among other meanings: "giving, granting, bestowing on, presenting to". Finally, in his *Vākyapadīya* III, 1, 14 Bhartṛhari deals with the characteristics of the "universal" category (*jāti*), and Helārāja in his commentary *ad locum* says regarding this category:

> *svānurūpābhidhānahetutvam, yadvaśād dravyaṃ tadrūpābhidhāna- vācyaṃ bhavati.*

> "[The universal category substance, *jātidravya*,] is the cause of a predicate [or name or denomination] resembling itself [i.e. the universal], by whose power the [individual, particular] substance is designable by a predicate [name or denomination] that expresses the nature of that [universal as possessed by the individual]."

Thus Helārāja clearly indicates that it is *jāti* or the universal or the category, which provides the individual or particular with a name or denomination. To be a predicate is an essential common characteristic of all the categories in the Vaiśeṣika system. It could also be said that Kaṇāda on constructing his theory of categories is also handling with possible predicates.

4. The introductory words of the commentary by Vātsyāyana (between 350-450) to Gotama's *Nyāyāsūtras* I, 1, p. 28, Calcutta ed., indicate clearly the inevitable utilization of classification in the construction of a theory of categories:

> *sac ca khalu ṣoḍaśadhā vyūḍham upadekṣyate*:

> "That which exists will be described divided in sixteen parts [or categories]."

Vātsyāyana in this commentary uses the word *vyūḍham* ("divided", "distributed"), which comes from *vy-ŪH* that means "to divide", "to distribute" with the same purpose as Plotinus and Aristotle use the corresponding Greek words as we shall see later on. The infinite number of elements that compose the existing reality (beings, things, etc.) is thus distributed in a reduced number of groups.

5. The criterion of classification and distribution is *the common and uncommon characteristics* of what is to be classified, i.e. the similarities and dissimilarities that exist among existents. Praśastapāda, p. 15, Varanasi ed., says:

> *dravyaguṇakarmmasāmānyaviśeṣasamavāyānāṃ ṣannāṃ padārthānāṃ sadharmyavaidharmyatattvajñānaṃ niḥśreyasahetuḥ.*

> "The knowledge of the true nature, in terms of similarity and dissimilarity, of the six categories – substance, quality, movement, the universal, the particular, and inherence – is the means of accomplishing the Supreme Good."

And the commentator Śrīdhara in his *Nyāyakandalī*, *ad locum* glosses:

> *yasya vastuno yo bhāvas* [4] *tat tasya tattvam / sādhāraṇo dharmmaḥ sādharmyam, asādhāraṇo dharmmo vaidharmyam / sādharmya-vaidharmye*

[4] We adopt the reading of Manuscript K.

eva tattvaṃ ..., tasya jñānaṃ niḥśreyasahetuḥ :

> "*True nature* of a thing is its manner of being. *Similarity* is a common property. *Dissimilarity* is an uncommon property. *Similarity and dissimilarity* [with other things] are the *true nature* [of a thing], ... its knowledge is the means of accomplishing the Supreme Good."

The *Vaiśeṣikasūtras* of Kaṇāda, Praśastapāda, and in general all the authors of the Vaiśeṣika system, all along their treatises enumerate the categories and the component elements of each one of them, and point out the similarities and dissimilarities among all the categories and elements that are included in all of them. As for instance, Praśastapāda in the text just quoted enumerates the six *padārthas,* "categories" doing a reference to their similarities and dissimilarities, and in p. 54 he enumerates the similarities among the nine kinds of substances (*dravya*), "earth" (*pṛthivī*), "water" (*apas*), "fire" (*tejas*), "air" (*vāyu*), "ether" (*ākāśa*), "time" (kāla), "space" (*dig*), "soul" (*ātman*), "mind" (*manas*):

> *pṛthivyādīnāṃ navānām api dravyatvayogaḥ svātmanyārambhakatvaṃ guṇavattvaṃ kāryyakāraṇāvirodhitvam antyaviśeṣavattvam:*

> "The partaking of 'substanceness', the capacity of bringing about the effects that belong to their nature, the fact of having qualities, the fact of not being destructible by their causes and effects, and the fact of being endowed with ultimate individualities [= the atoms]."

II

Aim, nature and criterion of classification of the categories as established by Aristotle

1. Also in Greece was felt the necessity of establishing an inventory and classification of the existing things, and therefore in this task it was necessary to have recourse, as Kaṇāda had, to *things, words* and *concepts.*

The first treatise on a system of categories in Western Philosophy was composed in Greece by Aristotle (*circa* 384-322 B.C.). The treatise bears the name of *Κατηγορίαι,* "Categories". In the beginning of the treatise, 1^{a}16-19, Aristotle says:

> *Τῶν λεγομένων τὰ μὲν κατὰ συμπλοκὴν λέγεται, τὰ δὲ ἄνευ συμπλοκῆς. τὰ μὲν οὖν κατὰ συμπλοκήν, οἷον ἄνθρωπος τρέχει, ἄνθρωπος νικᾷ· τὰ δὲ ἄνευ συμπλοκῆς, οἷον ἄνθρωπος, βοῦς, τρέχει, νικᾷ.*

> "Of [all] that is said [= of all the words], some are said in a combination [of words], others without combination. In combination as *man runs, man wins.* Without combination as *man, bull, runs, wins.*"

And in 1^{b}25-27 he enumerates the categories:

> *Τῶν κατὰ μηδεμίαν συμπλοκὴν λεγομένων ἕκαστον ἤτοι οὐσίαν σημαίνει ἢ ποσὸν ἢ ποιὸν ἢ πρός τι ἢ ποὺ ἢ ποτὲ ἢ κεῖσθαι ἢ ἔχειν ἢ ποιεῖν ἢ πάσχειν.*

> "Of [all the words] that are said without any combination each signifies either substance or quantity or quality or relation or position in space or position in time or posture or possession or action or passivity."

Next Aristotle gives examples of each one of these categories: *substance*: man, horse; *quantity*: two cubits long, three cubits long; *quality*: white, grammatical; relation: double, half, greater; *position in space*: in the Lyceum, in the agora; *position in time*: yesterday, a year ago; posture: he lies, he sits; possession: he wears shoes, he is equipped; *action*: to cut, to burn; *passivity* (= *quod quis patitur*): to be cut, to be burnt.

What Aristotle expresses in the quoted texts seems clear enough: he distributes *words* in ten groups (categories) according to some similarity possessed by the *things* these words signify.

2. But in some texts of other treatises Aristotle refers to the categories as signifying the genera into which *being* ("ens") and the *existents* ("entia") are distributed. In these texts Aristotle's form of expressing himself is nearer to that of Kaṇāda. We quote some of these texts in which categories are related to *being* [ens] and the *existents* [entia]:

Metaphysics 1065^{b}5-8; cf. *Physics* 200^{b}26-28:

> *Ἔστι δὲ τὸ μὲν ἐνεργείᾳ μόνον, τὸ δὲ δυνάμει, τὸ δὲ δυνάμει καὶ ἐνεργείᾳ, τὸ μὲν ὄν, τὸ δὲ ποσόν, τὸ δὲ τῶν λοιπῶν. οὐκ ἔστι δέ τις κίνησις παρὰ τὰ πράγματα· μεταβάλλει γὰρ ἀεὶ κατὰ τὰς τοῦ ὄντος κατηγορίας.*

"This exists only in actuality, that in potentiality, that in potentiality and actuality, this is existent [ens], that is quantity, that is [one] of the remaining [categories]. There is not any movement apart from things, for change always takes place related to the categories of the existent [ens] [as for instance increase and decrease in relation to quantity], … "

On the soul 412^{a}6:

λέγομεν δὴ γένος ἕν τι τῶν ὄντων τὴν οὐσίαν,

"We say that substance is a genus [= category] of the existents [entia]."

3. As in the case of Kaṇāda also in the case of Aristotle *words* refer to the *things* and to the *concepts* that correspond to the things and words. Kaṇāda groups *existing things*, Aristotle groups, according to some texts, *words*, and, according to others, *existents*, but due to the tight relation among words, things and concepts, both of them are always doing an identical task: a classification of the same, seen from a different angle: as a thing, as a word, as a concept. Heymann Steinthal, in his work *Geschichte der Sprachwissenschaft bei den Griechen und Römern*, Erster Teil, pp. 203-206 and 209, had reached the same conclusion:

"In an unconscious and unnoticed way, now the linguistic expression introduces itself in his [Aristotle's] consciousness instead of the conceptual relation, now again the object instead of the word. What for us is separate in three is for him something essentially one (204) … ["the genera of the categories"] are the genera of words, and therefore of concepts, and therefore of things."

However, Aristotle does not explicitly indicate in its work *Categories* the purpose of his treatise, as Kaṇāda does. Owing to this omission there has been since Greek Antiquity differences in the purpose authors attribute to Aristotle for composing his list of categories.

4. Thus Plotinus (205-270 A.D.) refers to this difference of opinion concerning the nature of the categories, and he understands without questioning himself that Aristotle and his disciples in their system of categories are dealing with *things*. In his treatise *Enneads* VI, 1 ("On the genera of being"), section 1, lines 12-14, Paris ed., Plotinus says:

Ἔστι δὲ καὶ ἐν τοῖς γένεσι διαφορά· οἱ μὲν γὰρ τὰ γένη ἀρχάς, οἱ δὲ αὐτά τὰ ὄντα τῷ γένει τοσαῦτα. Πρῶτον τοίνυν τὴν διαιρουμένην εἰς δέκα τὰ ὄντα ληπτέον …

"There is also difference of opinion in [relation to the nature of] the genera. According to some genera are principles, according to others things themselves are so as genera. Firstly let us take that [opinion: of Aristotle and his disciples] which divides *the existing things* in ten…"

And *ibidem*, lines 28-30, criticizing the Peripatetics' conception of categories, because while pretending to refer to the existing things, they did not refer to the intelligibles, which for Plotinus are the most existing things, he affirms:

Ἀλλὰ περὶ τῶν νοητῶν κατὰ τὴν διαίρεσιν οὐ λέγουσιν· οὐ πάντα ἄρα τὰ ὄντα διαιρεῖσθαι ἐβουλήθησαν, ἀλλὰ τὰ μάλιστα ὄντα παραλελοίπασιν.

"But in their division [in categories] they [Aristotle and his disciples] do not speak of the intelligibles. May be they did not want to divide [in categories] *all existing things*, but they left aside [just] the most existing things [= the intelligibles]."

Boethius (*circa* 480-524/525) in his commentary *ad Aristotelis Praedicamenta* (= "categories"), Migne, *Patrologia Latina*, Vol. LXIV, p. 161, expresses that the intention (*intentio*) of Aristotle in writing his treatise on the categories was to classify the infinite number of things into a limited number of groups:

Rerum ergo diversarum indeterminatam infinitamque multitudinem, decem praedicamentorum paucissisima numerositate conclusit, ut ea quae infinita sub scientiam cadere non poterant, decem propriis generibus diffinita scientiae comprehensione claudantur. Ergo decem praedicamenta quae dicimus, infinitarum in vocibus significationum genera sunt, sed quoniam omnis vocum significatio de rebus est, genera rerum necessario significabunt.

"[Aristotle] thus enclosed the unlimited and infinite multitude of the diverse things in the most reduced number of ten predicates, in order that those things, which because of being infinite could not be the object of science, once being defined by their own ten genera, could be hold by the comprehension of science. Therefore, what we call the ten predicates are the genera of the infinite meanings [existing] in words, but since all meaning of the words concerns things, they [= the ten predicates] necessarily will mean the genera of the things."

Simplicius (*floruit* 527-565 A.D.) in his commentary on Aristotle's treatise on categories, *In Aristotelis categories commentarium*, p. 9, lines 6-9, lines, 22-23, and lines 31-32, indicates that there were diverse opinions on the nature of object of Aristotle's classification in his *Categories*:

> *ὅτι μὲν γὰρ περὶ δέκα τινῶν ἁπλῶν ποιεῖται τὸν λόγον, ἅπερ γένη καλοῦσιν ὡς ὁλικώτατα, πρόδηλον. ταῦτα δὲ οἱ μὲν φωνὰς εἶναι λέγουσιν καὶ περὶ φωνῶν ἁπλῶν εἶναι τὸν σκοπόν φασι ... περὶ δὲ τῶν ὄντων αὐτῶν τῶν ὑπὸ τῶν φωνῶν σημαινομένων εἶναι [ἄλλοι] λέγουσι τὸν σκοπὸν ... ἄλλοι δὲ οὔτε περὶ τῶν σημαινουσῶν φωνῶν οὔτε περὶ τῶν σημαινομένων πραγμάτων εἶναι λέγουσι τὸν σκοπόν, ἀλλὰ περὶ τῶν ἁπλῶν νοημάτων·*

> "It is clear that he [= Aristotle] makes his exposition about ten simple things, which are called the most universal genera ... Some say that these are the *words* and that the object [of the treatise] is about the *simple words* ... [Others] say that the object is about the *existents* [entia] *themselves as signified by the words* ... Others say that the object is neither about the signifying words nor about the signified things but about the *simple notions*."

It is remarkable that the text when dealing with the second interpretation uses the expression: "about the existents [entia] themselves signified by the words" – expression that corresponds exactly to *padārtha* in Vaiśeṣika terminology, which means: "the meaning of the word", i.e. the thing designated by the word.

5. The controversy on the nature of categories went on until our days: Eduard Zeller, in his work *Die Philosophie der Griechen*, reprint 1990, Vol. II, 2, pp. 258-260, expresses his interpretation of Aristotle's categories:

> "All the objects of our thought fall, according to Aristotle, under the following ten concepts ... [the author enumerates here the ten categories of Aristotle]. These highest concepts or categories designate for him neither mere subjective forms of thinking, which are originally alien to his realism, nor mere logical relations at all; the different determinations of the real are rather what they express."

It is evident that for Zeller the categories are the supreme ten concepts under which all the existent things can be included.

Adolf Trendelenburg in his *Geschichte der Kategorienlehre* of 1846, reprint 1979, pp. 2-20, affirms that the categories of Aristotle "*appear to be the general notions under which fall the predicates of the simple sentence*" ... and that "*The categories are the most general predicates*" (p. 20). And in pp. 23-24 he relates the categories of Aristotle to the grammatical relations as they were established later on by the Stoics: the substance, corresponds to the noun; quantity and quality, correspond to the adjective; relation, to the comparative; position in space and position in time, to adverbs of place and time; and the last four categories correspond to the active, passive, intransitive forms of the verb and to the perfect tense.

O. Hamelin, *Le système d'Aristote*, pp. 97-107, indicates the following characteristics of the nature of Aristotle's categories according to his interpretation:

> *"They are things that are said without any relation ... they are not words; they are notions ... which express something of being [l'être] ...(97) they would be attributes ... possible attributes ...(98) ...the categories are thus genera of being, ...(99) ...they are the most general genera ... Since the categories are genera, they are thus each one a real common element in things that belong to each one; they reveal the real determinations of being ... Aristotle divides being in several irreducible and incommunicable genera ...(99-100)...[The categories] are points of view about things and one and the same thing may be looked at from different points of view [i.e. things may be included in several of them] (106)."*

6. In the quoted texts by Plotinus are found the Greek words corresponding to "which divides in categories", "division in categories", and "to divide in categories", to indicate the operation necessary for the establishment of a system of categories. Aristotle himself uses the Greek words *diaíresis* and *diaireîsthai* in the same context and with the same meaning as Plotinus, as for instance in his *Topica* 120b36 and 121a6, *Prior Analytics* 46a31 ("the division through the genera [= categories]"). It could also be found in the text of Boethius quoted before a reference to the distribution or division of the *infinitas rerum diversitates* ("the infinite diversities of things") in *decem praedicamenta* ("ten categories").

7. Aristotle gives in *Topica* 102a31-b3, the definition of *genus*:

> *Γένος δ' ἐστὶ τὸ κατὰ πλειόνων καὶ διαφερόντων τῷ εἴδει ἐν τῷ τί ἐστι κατηγορούμενον.*

> "Genus is that which is predicated in the [category of] essence of several things that differ in kind."

Aristotle, giving an example of genus says that "living being" is the *genus* of man and ox. Porphyrius in his *Isagogé* § 6, p. 3, explains Aristotle definition:

> *Τῶν γὰρ κατηγορουμένων τὰ μὲν καθ' ἑνὸς λέγεται μόνου, ... οἷον Σωκράτης ... τὰ δὲ κατὰ πλειόνων, ὡς τὰ γένη καὶ τὰ εἴδη ... κοινῶς ἀλλὰ μὴ ἰδίως τινί.*

> "Among the predicates some are said only of one [being or thing] ... as for instance 'Socrates' ... others of several things, as the genera and the classes, ... in common but not in an individual manner of one [being or thing]."

From this text it is clear that for Aristotle beings or things are of the same genus when to all of them can be given one same predicate belonging to the essence category, i.e. when they have a *common*, attribute belonging to that category. Aristotle himself, *ibidem*, defines what are the predicates belonging to the essence category, *ibidem* 102^{a}33:

> *ὅσα ἁρμόττει ἀποδοῦναι ἐρωτηθέντα τί ἐστι τὸ προκείμενον,*

> "Such things which are fitting to be given as an answer by one who has been asked: What is the object before you?"

Aristotle adopts the same criterion of commonness in his classification of the animal species.[5]

Since Boethius who was the first to translate the *Categories* of Aristotle into Latin and all along the Middle Age it has been usual in the West to give to the ten Aristotelian categories the name of *praedicamenta*, which is in fact the term most adequate to the etymology of the Greek word '*κατεηγορία*'. Isidore of Seville (*circa* 560-635) in his *Etymologiarum sive originum Libri XX*, Lib. II, XXVI, says: ... *Aristotelis categoriae, quae Latine praedicamenta dicuntur* ...: "The category of Aristotle which in Latin are called predicates ..." Petrus Hispanus Portugalensis (13th century) in his widely used logical treatise *Summulae Logicales*, Venice ed. 1572, reprint 1981, p. 78, also uses the Latin term *praedicamenta* to refer to Aristotle's categories.

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5 Sir David Ross, *Aristotle*, pp. 114-117.

III

The primacy of language in cognition: Bhartṛhari, Hobbes and Leibniz

We have referred several times in the previous sections to the tight relation that exists among the elements that are handled in establishing a system of categories: *things*, *words* and *concepts*. This relation has as its cause the central function that the word has in any act of cognitive activity, as for instance the establishment of a system of categories: knowledge cannot exist without words, and knowledge and words, by nature, cannot be separated from the things (existents, entia) that they respectively grasp and name. This conception of the primacy of language is found in Indian as well as in Western Philosophy.

1. The great Indian philosopher of language Bhartṛhari, in his *Vākyapadīya* I, 123 (115) and 124 (116), says in this respect:

> *na so 'sti pratyayo loke yaḥ śabdānugamād ṛte /*
> *anuviddham iva jñānaṃ sarvaṃ śabdena bhāsate //123//*
>
> *vāgrūpatā ced utkrāmed avabodhasya śāśvatī /*
> *na prakāśaḥ prakāśeta sā hi pratyavamarśinī //124//*
>
> "There is no cognition in the world
> which is not accompanied by words;
> all knowledge appears, as it were,
> blended with the word //123//
>
> If the eternal nature of word which belongs to knowledge,
> were to disappear,
> the light [of knowledge] would not illuminate,
> because that nature is which makes recognition
> and identification [of what reaches the mind] possible." //124//

As a commentary to these two stanzas of Bhartṛhari let us quote Bimal Krishna Matilal, *Epistemology, Logic and Grammar in Indian Philosophical*

Analysis, section 1.4. Bhartṛhari's Theory of Knowledge: 'Construction' (*vikalpa*), 1971, pp. 29-34:

"*...One can maintain that his contribution to epistemology lies in the fact that he recognized quite clearly the very significant role of language in the structure of empirical knowledge. (p. 29)*

(And in the next paragraph at the end:) Our interest lies here in Bhartṛhari's assertion that our initial cognition starts with language, with words and names.

According to Bhartṛhari, there cannot be any cognitive state in this world without the imprint of words. Word, or rather 'the implicit speech element', is the seed (bīja) which enlightens our consciousness of the object. The latent word in the speaker generates the cognition when he (is conscious of some object and by expressing that word he) awakens the latent word in the mind of the hearer and in this way the latter becomes conscious of that object. If consciousness were to operate without our linguistic potency, we would be left with an impotent consciousness, which could not reveal any object [In note B.K. Matilal includes the two quoted stanzas by Bhartṛhari] (pp. 29-30).

It is argued that 'implicit speech' is inherent in the nature of our cognitive states just as illumination is in the nature of fire. One cannot be separated from the other, and hence the two are indistinguishable. Even our perceptual consciousness of an object involves, for all practical purposes, conceptualization and interpretation, and hence can hardly be differentiated from our linguistic habit which goes with it. Conceptualization and interpretation operate with words and names, which may be either uttered or unuttered. Whenever our 'pure' sensation penetrates into the cognitive level, it invariably penetrates, according to Bhartṛhari, into the linguistic level or our 'implicit speech' level (p. 30).

Bhartṛhari's point here, of course, is that this verbalization or use of overt language is not just a cloak, which our cognitive state picks up and put on in order to be presentable to others. There is the implicit word or language, which is present in our cognitive state as an inextricable part of it. Bhartṛhari claims that it is the very flesh and blood of the cognitive state (p. 31)."

2. It is interesting to remark that ideas similar to those of Bhartṛhari, concerning the important function that language has in the process of cognition, are also found in Western Philosophy.

We shall only refer to two philosophers, Hobbes (1588-1679) and Leibniz (1646-1716), utilizing the excellent exposition of Marcelo Dascal in

his article "The dispute on the primacy of thinking or speaking", in *Sprachphilosophie Philosophy of Language La philosophie du langage*, Vol. 2, pp. 1024-1041. In relation to Hobbes Dascal affirms:

"*In an atmosphere of prevalent mistrust towards language, there is a philosopher that dares to claim that language has, in addition to its communicative function, not only some minor cognitive function, but also the highest possible function. Language, says Hobbes in a well known passage, is the stuff out of which judgment, reasoning and science are made. It is so important that it serves to define the highest faculty of the mind, namely reason: "[...] reason, in this sense, is nothing but reckoning, that is adding and subtracting, of the consequences of general names agreed upon for the marking and signifying of our thoughts" (Leviathan I, 5) (II, p. 1029). Consistently with this overall cognitive importance assigned to language, Hobbes does not refrain from making truth itself dependent upon words: "truth consisteth in the right ordering of names in our affirmations*" (*Leviathan* I, 4) (II, p. 1029). ... *Hence, the sounds or written marks of language are, essentially, of the same stuff as the components of our mental life – ideas, judgments, beliefs, and desires.*"

In the same Chapter I, 5, of the *Leviathan*, quoted by Dascal, Hobbes also points out that children are not endowed with reason until they get the use of word, even if they are called reasonable creatures owing to the possibility in the future of having the use of reason, when they acquire that use.

Proceeding to deal with Leibniz, Dascal says, *ibidem*, II, p. 1031, that Leibniz would have answered with an enthusiastic 'Yes' to the question: "Does language (or another semiotic system) play a significant role in cognition?", and he quotes a passage of Leibniz' *Die philosophischen Schriften*, C.I. Gerhardt ed., Vol. VII, p. 19, really decisive:

[...] si characteres abessent, nunquam quicquam distincte cogitaremus, neque ratiocinaremus.

"If there were no characters, we would never think distinctly of anything, nor reason [Dascal's translation]."

We must understand by the term '*characteres*': "words" (*verba*), "signs" (*notae*), "images" (*imagines*), *ibidem* VII, 31.

IV

Kinds of words used in the theory of categories: the Vaiśeṣika system, Bhartṛhari and Aristotle

1. In its system of categories the Vaiśéṣika system of Indian Philosophy has recourse to words. To refer to the categories it uses the word *padārtha*, where *pada°* ("word") is opposed to *vākya* ("sentence"). In its enumerations of the categories and its components, the Vaiśéṣika presents long lists of words. The *padas* are the names (*nāman*) of the things that the Vaiśeṣika intends to inventorize and classify. The words to which the Vaiśeṣika has recourse are *words isolated* from other words; they do not belong to a sentence. *Words connected* with other words in a sentence would constitute judgments, and in the designation, inventory and classification of things represented by words, sentences and judgments have nothing to do. The use of *isolated words* is something imposed by the task that Kaṇāda decided to carry out.

2. Bhartṛhari, in *Vākyapadīya* I, 24-26, indicates which are the subjects of his treatise. Among these subjects is the study of the *isolated words*, words without conjunction with other words: *apoddhārapadārtha* (I, 24). Volume II of the treatise deals with the *sentence*, Volume III deals with the *isolated words*. And in the Commentary, *Vṛtti*, of his *Vākyapadīya ad* I, 24-26, p. 78, Poona ed., Bhartṛhari quotes a stanza (c-d) which opposes the *word* and the *sentence* in quite Aristotelian terms and shows that the *padas* as such have an 'isolated existence': *padasaṃghātajaṃ vākyaṃ varṇasaṃghātajaṃ padam*: "The sentence is born from a combination of words, the word is born from a combination of sounds." It is in Volume III, which is dedicated to the study of the grammatical categories, that Bhartṛhari deals with *apoddhārapadārtha*, the *isolated word* whose study is announced in I, 24.

3. The same thing happens with Aristotle. In his treatise on *Categories*, he makes clear that he establishes his system of categories on the basis of *isolated words*. In the text already quoted, 1^a16-19, Aristotle says that of all the *words* some are said *in combination* with other words, others *without combination*: ἄνευ συμπλοκῆς; and in the also quoted text 1^b25-27 he affirms that the words that are said *without combination* designate some of the ten categories in which he classifies all that exists, i.e. he constructs his theory of categories on the basis of the *isolated words* as Kaṇāda does. This idea was adopted by the successors of Aristotle. Petrus Hispanus Portugalensis, whom we have already quoted, distributes, p. 78, in ten categories the words *quae secundum nullam complexionem dicuntur*: "which are said without any connection".

V

Truth and falsity in categories

1. The commentary (*Vṛtti*) of the *kārikās* 24-26 of the First Book of Bhartṛhari's *Vākyapadīya*, pp. 65-66, after explaining how the isolated word (*apoddhārapadārtha*) is obtained from the sentence, adds the following important remark:

> *sa caikapadanibandhanaḥ satyāsatyabhāvenānupākhyeyaḥ / vṛkṣaḥ plakṣa ity anupasaṃhṛte hi kriyāpade śabdopagrahāṇām arthātmanāṃ nirūpaṇaṃ na vidyate /*

> "The meaning based on one single [= isolated] word cannot be determined as true or false. 'Tree' or 'fig-tree' – [when these words are uttered] without adding to them a verb, there is not [possibility of] ascertaining [the truth or falsity] of what the words express as their own meaning."

The sub-commentary *Ambakartrī* by Raghunātha Śarmā (born 1897) *ad locum* makes clear the preceding explanation:

> *yathā 'vṛkṣaḥ plakṣaḥ' ityatra yadā kriyāpadaṃ nopanīyate, tadā 'nupasaṃhṛte kriyāpade kevalair vṛkṣādipadair upagṛhyamāṇānāṃ = pratīyamāṇānāṃ vṛkṣatvādijātīyānām arthānāṃ satyatvenāsatyatvena vā nirūpaṇam na vidyate /*

> "For instance, 'tree', 'fig-tree' – when to them a verb is not added, then, because a verb has not been added, there is no [possibility of] ascertaining, as being true or not being true, the meanings that are conveyed - i.e. known, by means of the mere words 'tree', etc. – [meanings] that [when the words are isolated] are indicative of [nothing else than] the genera 'being a tree', etc."

The *Paddhati* of Vṛṣabhadeva (8^{th} century) *ad locum* similarly affirms that by the isolated word is produced the knowledge of the meaning fixed by the genus to which the corresponding word belongs: *jātivyavacchinnārthasampratyayas ...*

The meaning of the isolated words, not integrated in a sentence – that are the kind of words with which the systems of categories are constructed - cannot be declared to be either true or false. Two other equally important ideas result from the quoted texts: the cause of the inability of the isolated word to be declared false or true is the absolute absence of a verb added to it or accompanying it, and the isolated word when uttered, although it does not constitute a sentence, nevertheless gives rise in the mind to a meaning, that of the genus to which the word belongs.

2. In Aristotle are found similar ideas to those expressed by the Indian authors just quoted. In his work *Categories* $2^{a}8$-10 he says that *the isolated words cannot be either true or false*:

> *τῶν δὲ κατὰ μηδεμίαν συμπλοκὴν λεγομένων οὐδὲν οὔτε ἀληθὲς οὔτε ψεῦδός ἐστιν, οἷον ἄνθρωπος, λευκόν, τρέχει, νικᾷ.*
>
> "Among the words said without any combination [with other words] no one is either true or false, as for instance 'man', 'white', 'runs', 'wins'."

In *On Interpretation* $16^{a}12$-16, besides the idea of the inapplicability of the attributes 'true' or 'false' to the isolated word, he asserts that *these attributes are applicable if something is added* to the isolated word:

> *περὶ γὰρ σύνθεσιν καὶ διαίρεσίν ἐστι τὸ ψεῦδός τε καὶ τὸ ἀληθές. τὰ μὲν οὖν ὀνόματα αὐτὰ καὶ τὰ ῥήματα ἔοικε τῷ ἄνευ συνθέσεως καὶ διαιρέσεως νοήματι, οἷον τὸ ἄνθρωπος ἢ λευκόν, ὅταν μὴ προστεθῇ τι· οὔτε γὰρ ψεῦδος οὔτε ἀληθές πω.*
>
> "Falsity and truth are about union [= affirmation] and separation [= negation]. Nouns by themselves and verbs are similar to a notion without union or separation, as for instance 'man' or 'white', if something is not added. It [= the notion] is neither false nor true."

And, *ibidem*, $16^{b}28$-30, he insists in the idea that a *word isolated from the sentence* is not affirmative (or negative) (and in an implicit way he hints to *the impossibility of the isolated word to be true or false*), pointing out

that *it will be affirmative or negative, i.e. true or false, when something is added to it*, and that even being so, nevertheless the isolated word *signifies something*:

> *Λόγος δέ ἐστι φωνὴ σημαντικὴ κατὰ συνθήκην, ἧς τῶν μερῶν τι σημαντικόν ἐστι κεχωρισμένον, ὡς φάσις, ἀλλ' οὐχ ὡς κατάφασις ἢ ἀπόφασις. λέγω δέ, οἷον ἄνθρωπος σημαίνει μέν τι, ἀλλ' οὐχ ὅτι ἔστιν ἢ οὐκ ἔστιν· ἀλλ' ἔσται κατάφασις ἢ ἀπόφασις, ἐάν τι προστεθῇ.*
>
> "A speech is an emission of sounds with a meaning and constituted by a combination [of words], someone of whose parts, [on being] separated has a meaning, [only] as a mere utterance but not as an affirmation. I say for instance 'man' means something, but not that it is or it is not; but it will be an affirmation or negation if something is added [to it]."

And finally, *ibidem*, $17^{a}6$-9, Aristotle asserts that what is to be added to the isolated word in order that it be an enunciative speech, and as such predicable of truth or falsity, is the verb:

> *ἀνάγκη δὲ πάντα λόγον ἀποφαντικὸν ἐκ ῥήματος εἶναι ἢ πτώσεως ῥήματος· καὶ γὰρ ὁ τοῦ ἀνθρώπου λόγος, ἐὰν μὴ τὸ ἔστιν ἢ ἔσται ἢ ἦν ἤ τι τοιοῦτο προστεθῇ, οὔπω λόγος ἀποφαντικός*
>
> "It is necessary that any speech be enunciative depending of a verb or of a modification [of the verb], then the word 'man', is not an enunciative speech, if 'is' or 'was' or 'will be' or something alike is not added."

Even if the isolated word is not an enunciative speech and cannot be declared to be either true or false, nevertheless *it signifies something*. Aristotle does not make explicit which is that "something" (*τι*) that the isolated word anyhow expresses.

The fact that the example of 'man' given by Aristotle himself in the two last quoted texts is the same example he gives under the category 'substance', when he enumerates the list of categories, and the fact that any word/concept/thing necessarily belongs to anyone of the categories compel to think that the meaning of the isolated word is the *category* to which it belongs.

VI

The notions of astitva *in Vaiśeṣika theory of categories,* οὐσία /εἶδος /ἐντελέχεια *in Aristotle, and* exsistentia *in Marius Victorinus*

1. Praśastapāda, *Padārthadharmasaṅgraha*, p. 41, points out three essential characteristics of the categories (*padārtha*): *ṣaṇṇām api padārthānāṃ sādharmyam astitvābhidheyatvajñeyatvam* : "Existence, predicability and cognoscibility are the common attributes of the six categories." The commentary to *Padārthadharmasaṅgraha* by Śrīdhara *ad locum*, p. 41 Varanasi ed., p. 54 Vadodara ed., explains the values of the terms "existence" (*astitva*), "predicability" (*abhideyatva*) and "cognoscibility" (*jñeyatva*). We have already referred to the concept of "predicability", *abhideyatva*, in Section I, 3 of this chapter; now in this section we shall deal with the notion of *astitva*: "beingness", "existence":

> *astitvaṃ svarūpavattvam, ṣaṇṇām api sādharmyam, yasya vastuno yat svarūpaṃ tad eva tasyāstitvam.*
>
> "Existence is the fact of possessing one's own form; it is common to all the six [categories]. The own form of a thing is the existence of that [thing]."

It is interesting to make a special remark on this concept of existence (*astitva*) that the quoted text by Śrīdhara develops. It is said that something exists when it possesses its *svarūpa*, its own form, or what is the same its *svabhāva* (synonym of *svarūpa*, *Amarakośa*), its own nature, i.e. when it possesses all the essential component elements and attributes that belong to it, and give it its own peculiar identity, in other words when it absolutely complies with its own definition. This definition of "existence" is valid for the categories as well as for the concrete material things that they designate. For instance: a concrete material man exists when he has a body, life, and consciousness; it is the possession of these elements that constitute him as a 'man'. A triangle exists when I conceive it in my mind or when I draw it in the paper as a figure endowed with three angles.

This notion of "*astitva*" refers only to the empirical beings and

things. *Astitva* is the being or existing of someone or something with all the attributes that constitute its specific individuality and whose possession is what gives the right to the name that is assigned to that individual or thing. On the contrary, the *being* of *Brahman*, the Absolute of the Vedānta, is an abstract *being* deprived of any qualification, beyond any determination, which would constitute a limitation to its supreme status. It is a metaphorical use of the word. Thus the *astitva* as conceived by Śrīdhara does not correspond to *Brahman*. This "existence" corresponds only to the individual and things which conform our empirical reality, that are immersed in it, and that thanks to the elements, which the empirical reality provides them with, are individualized. The notion of "existence" given by Śrīdhara is also adopted by Jagadiśa (*floruit* 1620) in his commentary *Sūkti* to Praśastapāda's treatise. In p. 114, line 12 Chaukhamba ed., he glosses *astitvam* by *svarūpasattvam*: "the existence of the *svarūpa*".

2. The idea adopted by Śrīdhara that the *svarūpavattvam*, "the fact of being in possession of one's own form", is *existence* reminds some ideas expressed by Aristotle in his treatise *On the Soul*. In that treatise, in 412[a] 7-9, Aristotle gives three meanings for *οὐσία*, "substance":

> *λέγομεν δὴ γένος ἕν τι τῶν ὄντων τὴν οὐσίαν, ταύτης δὲ τὸ μέν ὡς ὕλην, ὃ καθ' αὑτὸ μὲν οὐκ ἔστι τόδε τι, ἕτερον δὲ μορφὴν καὶ εἶδος, καθ' ἣν ἤδη λέγεται τόδε τι, καὶ τρίτον τὸ ἐκ τούτων.*
>
> "We say that one genus of the existing things is substance, and this is 1: matter which in itself is not an individual thing, 2. *shape and form by virtue of which individuality is attributed to it [= matter]*, and 3. the compound of both [i.e. of 1. and 2.]."

It could be said that in its second meaning the Greek word *οὐσία* ("substance") has the same meaning as *svarūpa* ("own form or shape") in Sanskrit. Aristotle in the quotations we give below mentions "form" (*εἶδος*) leaving aside "shape" (*μορφή*). The only difference between Śrīdhara and Aristotle is that Śrīdhara explains what happens when *svarūpa is there*: there is *astitva*, "existence", and on the contrary Aristotle explains what happens when *οὐσία is absent*: there is "non-existence".

In 412[a]21 Aristotle affirms, referring to "form" (*εἶδος*) (the second meaning of *οὐσία* previously indicated), that it is "*entelechy*":

> *ἡ δ' οὐσία ἐντελέχεια*

"And substance [in the sense of form (*eîdos*)] is the entelechy [of the body]".

The same idea is expressed by Aristotle in 412^a9-10:

ἔστι δ᾽ ἡ μὲν ὕλη δύναμις, τὸ δ᾽ εἶδος ἐντελέχεια

"Matter is potentiality, while the form (*eîdos*) is the entelechy [of the body]";

and in 412^a21:

ἡ δ᾽ οὐσία ἐντελέχεια

"The substance [in the sense of form (*eîdos*)] is the entelechy [of the body]".

"Entelechy", *ἐντελέχεια*, means in Greek: "the full, complete reality". The Greek compound *ἐντελέχεια* is formed by the words *ἐντελής, ἐς* and *ἔχειν*; the first word means: "complete", "full", "perfect", "finished", "accomplished" and it derives from *τέλος*, which among its several meanings has those of: "fulfillment", "end", "achievement", "attainment", and the second word means: "to have". The word "entelechy" signifies: 1. the *process* leading to the complete achievement of *something*, whereby that *something* obtains the definitive form that is proper to it, its individual identity, its *τόδε τί*, *tóde ti*, which it did not possess until that moment or that it possessed only in an imperfect way, and 2. the *form itself* reached through the indicated process.

Finally, in 412a19-21, Aristotle identifies "soul" (*ψυχή*) with *οὐσία*, "substance", expressly taken in its second meaning of "form" (*εἶδος*):

ἀναγκαῖον ἄρα τὴν ψυχὴν οὐσίαν εἶναι ὡς εἶδος σώματος φυσικοῦ δυνάμει ζωὴν ἔχοντος.

"So it is necessary that the soul be substance in the sense of [being the] form of a natural body potentially possessing life".

And in 415^b9-14 Aristotle corroborates this identification:

... ὁμοίως δ᾽ ἡ ψυχὴ κατὰ τοὺς διωρισμένους τρόπους τρεῖς αἰτία· καὶ γὰρ ὅθεν ἡ κίνησις αὐτή, καὶ οὗ ἕνεκα, καὶ ὡς ἡ οὐσία τῶν ἐμψύχων σωμάτων ἡ ψυχὴ αἰτία. ὅτι μὲν οὖν ὡς οὐσία, δῆλον· τὸ γὰρ αἴτιον τοῦ εἶναι πᾶσιν

ἡ οὐσία, τὸ δὲ ζῆν τοῖς ζῶσι τὸ εἶναί ἐστιν, αἰτία δὲ καὶ ἀρχὴ τούτων ἡ ψυχή.

"Equally the soul is cause in each of the three senses that we have distinguished (*Metaphysics* 983^a26), for the soul is the cause from which motion [is produced], the final cause, and cause as being the substance [in the second meaning indicated in 412^a7-9] of the animate bodies. It is evident that [the soul is cause] as substance [in the second indicated meaning], since the substance [in the second meaning] is for all [existents] the cause of existing, and for living beings to live is to exist; and of them the soul is the cause and the principle [= of living and existing]."

The conclusion is that "*soul*", "*entelechy*", and "*form*" can be considered as synonyms: they are that whereby something is what it is: its *τὸ τί ἦν εἶναι* (*tò ti ên eînai*), its *quidditas*, its *svarūpa*.

Lastly, Aristotle expresses that, if the "soul" (*ψυχή*) or (what is the same) the "form" (*εἶδος*) or the "entelechy" (*ἐντελέχεια*) of the body abandons it, the body itself ceases to be, is no more: in Indian philosophical terms when the *svarūpa abandons* something, this something *ceases to be*, *is no more* : its being, *εἶναι*, *has disappeared.* This according to Aristotle's conception, while - as we have said before - Śrīdhara's point of view of the same process emphasizes the necessity of the *presence* of the *svarūpa* for the *existence* of anything.

Thus in *De Anima* 412^b18-22 Aristotle develops this idea giving the example of the eye and the vision:

εἰ γὰρ ἦν ὁ ὀφθαλμὸς ζῷον, ψυχὴ ἂν ἦν αὐτοῦ ἡ ὄψις· αὕτη γὰρ οὐσία ὀφθαλμοῦ ἡ κατὰ τὸν λόγον. ὁ δ᾽ ὀφθαλμὸς ὕλη ὄψεως, ἧς ἀπολειπούσης οὐκ ἔστιν ὀφθαλμός, πλὴν ὁμωνύμως, καθάπερ ὁ λίθινος καὶ ὁ γεγραμμένος.

"If the eye were a living being [and not a material organ, unable to have a soul] its vision would be its soul, because it [the vision] is the substance [of the eye] in the sense of formula [i.e. essential definition = the second meaning indicated in 412^a7-11]. In fact, the eye is the matter of the vision, and, if it [vision] abandons [the eye], there is [no more] an eye, unless in an equivocal sense as for instance [an eye engraved in] a stone or painted."

In 412^b9-15 Aristotle develops the same idea, this time using the axe as an example:

καθόλου μὲν οὖν εἴρηται τί ἐστιν ἡ ψυχή· οὐσία γὰρ ἡ κατὰ τὸν λόγον. τοῦτο δὲ τὸ τί ἦν εἶναι τῷ τοιῳδὶ σώματι, καθάπερ εἴ τι τῶν ὀργάνων φυσικὸν ἦν σῶμα, οἷον πέλεκυς· ἦν γὰρ ἂν τὸ πελέκει εἶναι ἡ οὐσία αὐτοῦ, καὶ ἡ ψυχὴ τοῦτο· χωρισθείσης γὰρ ταύτης οὐκ ἂν ἔτι πέλεκυς ἦν, ἀλλ' ἢ ὁμωνύμως.

"It has been said [in 412^a1-$^b9$] in a general way what the soul is: it is substance in the sense of formula [cf. the previous quoted text], i.e. the essence of a determinate body. As for instance, if any material instrument were a [living] body, e.g. an axe, the essence [of the axe] would be that which makes it to be an axe [= its axeness], and that would be its soul, because, if it [= its essence in the indicated sense] is removed, there is [no more] an axe, unless in an equivocal sense."

If the eye or the axe are no more composed of their essential parts and do not fulfill what is their essential function, i.e. when they have no more their *εἶδος* (*eîdos*) or *svarūpa* (essential, individual form that makes them to be what they really are), they are no more an eye or an axe, there is no more an eye or an axe before us. "Existence" or *astitva* has ceased to be.

3. We want briefly to refer to a coincidence between Śrīdhara and a Roman philosopher Marius Victorinus, called "the African", a Christian Neoplatonic of the 4th century A.D. (he died in 380 A.D.)[6], concerning the notion of "existence", *exsistentia*. Among other works Marius Victorinus wrote a letter to his friend Candidus, a follower of Arianism[7], and a treatise *Adversus Arium*, both of which deal with Christian theological subjects related to Trinity.

Marius Victorinus establishes as a fundamental principle of his philosophy the distinction between *pure being without any determination* and *being provided with determination*[8].

[6] On Marius Victorinus see the article by Goulven Madec in Denis Huisman, *Dictionnaire des philosophes*, Volume II, pp. 1935-1936, and the introduction of Pierre Hadot, pp. 7-100 of the edition of Marius Victorinus' theological treatises on Trinity published in *Sources Chrétiennes*, Paris, 1960.

[7] On the "mysterious" Candidus, as P. Hadot calls him, see the same Hadot quoted in the previous note, *ibidem*, pp. 23-24.

[8] Cf. Hadot's quoted edition, Volume II, pp. 905-906, and Volume I, pp. 78-79, and in *Historisches Wörterbuch der Philosophie*, Band 2, col. 855 of the article "Existenz, existentia".

In *Adversus Arium* I, 30, lines 20-26, p. 274 (Hadot's ed.), Marius Victorinus assigns the Latin and Greek terms *exsistentia* and *ὕπαρξις* (*húparxis*) ("existence") to the *pure not determinate being*, and the Latin and Greek terms *substantia* and *οὐσία* (*ousía*) ("substance") to the *determinate being*:

Et [sapientes et antiqui] *dant differentiam exsistentiae et substantiae; exsistentiam quidem et exsistentialitatem, praeexistentem subsistentiam sine accidentibus, puris et solis ipsis quae sunt in eo quod est solum esse, quod subsistent; substantiam autem, subiectum cum his omnibus quae sunt accidentia in ipsa inseparabiliter existentibus.*

"And [the wise and the ancients] grant a difference to existence and substance; [they attribute] existence indeed and existentiality, [and] preexistent subsistence without accidents to the pure and isolated [entities] themselves, which are in what is merely *being*, because they [= the pure and isolated entities] subsist [in it]; on the other hand [they consider] that the substance is the subject together with all the things that constitute its accidents and which exist in it [= the substance] in an inseparably way."

In this text Marius Victorinus agrees with Candidus on the meaning of both words "*existence*" and "*substance*". Candidus very clearly explains this point, in *Candidi Epistula* I, 2, lines 18-23 (p. 108 of the quoted edition of Marius Victorinus' work):

Multo autem magis exsistentia a substantia differt, quoniam exsistentia ipsum esse est et solum esse et non in alio esse aut subiectum alterius, sed unum et solum ipsum esse, substantia autem non esse solum habet, sed et quale aliquid esse. Subiacet enim in se positis qualitatibus et idcirco dicitur subiectum.

"Existence differs much more indeed from substance, because existence is being itself and mere being and not being in another or the subject of another, but being itself one and alone; on the other hand substance does not have mere [and pure] *being*, but *being something endowed with qualities*, for it underlies the qualities located in itself and therefore it is called subject."

However, in *Adversus Arium* II, 4, lines 2-12, p. 406 (Hadot's ed.), there is an important terminological change: Marius Victorinus gives to *exsistentia* the meaning which in I, 30, lines 20-26, p. 274, he had given to *substantia*, and consequently he reserves the meaning of *substantia* for *existentia*, inverting the meaning of both terms:

Equidem ratio sic se habet, ut primum esse sit deus. Verum quia potest accipi esse non aperte quid sit, illud esse, si iam conprehendibile erit, ὂν dicitur, id est forma quaedam in notitiam veniens; quod tale esse iam ὂν et ὕπαρξις dicitur. (lines 7-11, p. 406).

"Certainly reason requires that God be the first being (*esse*). But as the being (*esse*) can be grasped without clearly [grasping] what it is, if it becomes comprehensible, [from that very moment] it is called *ón* (ὄν, *ens*, 'existent'), i.e. [from that very moment] it is a form that is known; such a being (*esse*) henceforth is called *ón* (ὄν, *ens*, 'existent') and ὕπαρξις ('existence')."

Est enim ὂν figura quadam formatum illud quod est esse ... (line 14, p. 406).

"For *òn* (ὄν, *ens*, existent) is that which is the being (*esse*) provided with a determinate form."

... *id est enim τὸ ὄν, esse cum forma. Omne enim quod est ὄν, esse est cum forma.* (lines 30-31, p. 406).

"... for that is *tò ón* (τὸ ὄν, 'the existent') : being with a form. For all that is *ón* (ὄν, existent), is being with a form."

In *Adversus Arium* IV, 19, lines 28-33, p. 558, Marius Victorinus describes God giving to each creature all what is its own, and constituting it as existing:

... *praestans ad exsistentiam unicuique sua et propria. Ergo quia sua unicuique et propria praestat, definit et determinat. Etiam illud ὂν facit. Inponendo enim infinito terminum rebus ad exsistentiam sui unicuique format rem et intellegentiae, infinitate sublata, subicit.*

"... granting to each thing for its existence what is proper to it and its own. Therefore, because He grants to each thing what is proper to it and its own, He sets bounds to it and delimits it. He also makes that [to be] *òn* (ὄν, 'existent'). Imposing a limit to what is subject to no limitation, in order that things reach each one its own existence, He gives a form to [each] thing and, once the lack of limitation has disappeared, He submits it [= each thing] to [the state of being an object of] intelligence [= able to be cognized]."

In this conception of *exsistentia*, *húparxis* (ὕπαρξις), is found an evident coincidence with Śrīdhara's conception of *astitva* = *svarūpavattva* or

"*the fact of possessing its own form*": in both cases in order that *existence* of a thing be given it is required the *presence* of a form, of a *svarūpa*, i.e. of all that belongs to that thing according to the essential definition of that thing.

Conclusions

The Sanskrit, Greek and Latin texts we have analyzed in this chapter show the following great coincidences between Indian and Western theory of categories[9]:

- The same will to *inventorize* and *classify* all the components of reality [Section I, 1-2 (Kaṇāda); Section II, 1 and 3 at the end (Aristotle)].
- The same conception of this task as an *operation of division, distribution* or *classification in groups* [Section I, 4 (Vātsyāyana); Section II, 6 (Aristotle, Plotinus)].
- The same use of the almost synonymous notions of "*similarity*" (India) and "*commonness*" (Aristotle) applied to the things that are to be distributed, *as the criterion for* their *classification* into the groups that will constitute the inventory [Section I, 5 (Kaṇāda, Praśastapāda, Śrīdhara); Section II, 7 (Aristotle)].
- The same unavoidable necessity to deal with the *indivisible triad of things / words / concepts*, which explains why a system of categories may be considered as referring to any one of the elements of the triad. [Section I, 1-2 (Kaṇāda, Vyomaśiva, Udayana, Śrīdhara); Section II, 1-5 (Aristotle, Plotinus, Peripatetics, Boethius, Simplicius)].
- The *primacy of language* in any act of cognition as the foundation of the mentioned triad [Section III, 1 (Bhartṛhari), 2 (Hobbes), 2 (Leibniz)].
- Both the Vaiśeṣika and Aristotle give a name to each of the groups into which things / words / concepts are distributed, and the names of each of these groups can be attributed as *predicates* to the things / words / concepts that constitute them. The *padārthas* of Kaṇāda and the *categories* of Aristotle are possible *predicates*, can be considered as such [Section I, 3 (Kaṇāda, Praśastapāda, Śrīdhara, Bhartṛhari, Helārāja); Section II, 7 (Aristotle, Porphyrius, Boethius, Isidore of Seville, Petrus Hispanus Portugalensis)].
- Both the Vaiśeṣika and Aristotle in their inventorying and classi-

[9] In square brackets we point out the correspondent sections (in Roman numbers) and paragraphs (in Arabic numbers) of the chapter for each of these coincidences.

fying activity have recourse to *isolated words*, that have no link with any other word and do not constitute sentences [Section IV, 1-2 (Kaṇāda, Bhartṛhari); Section IV, 3 (Aristotle, Petrus Hispanus Portugalensis)].

- For the Vaiśeṣika and Aristotle the *isolated words* they use for establishing the categories are *beyond truth and falsity* [Section V, 1 (Bhartṛhari, Raghunātha Śarmā, Vṛṣabhadeva); Section V, 2 (Aristotle)].

- The same conception that it is the *verb*, when added to the isolated word, which constitutes an *enunciative speech predicable of truth or falsety* [Section V, 1 (Bhartṛhari, Raghunātha Śarmā); Section V, 2 (Aristotle)].

- The same idea that even if the *isolated word* cannot be true or false, nevertheless it *means something* [Section V, 1 at the end (Bhartṛhari, Raghunātha Śarmā, Vṛṣabhadeva); Section V, 2 two last quotations (Aristotle)].

- The concept of *astitva*, "existence", an important attribute of the categories, as conceived by the Vaiśeṣika commentator Śrīdhara, coincides with Aristotle notions of *ousía*, "substance", *eîdos*, "form", *entelécheia*, "entelechy", and with the notion of *exsistentia*, *húparxis*, "existence", in the Western philosopher Marius Victorinus [Section VI, 1 (Praśastapāda, Śrīdhara, Jagadiśa); Section VI, 2-3 (Aristotle, Marius Victorinus, Candidus)].

- A not less important *general coincidence* between Indian and Western approach to the theory of categories in Philosophy is that in both of them there is an almost permanent and exclusive recourse to the *observation of facts* in reality and to their *systematization*.

- A last special comment that can be done concerning the coincidences between Aristotle's and Vaiśeṣika's theories of categories is that between them there is *not only coincidences of isolated* ideas, theories and doctrines, as it happens with the other Indian and Western philosophical systems we have analyzed before, but that it could be said that there is *a general coincidence between both systems of categories as wholes.*

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CHAPTER III

ARISTOTLE AND PRAŚASTAPĀDA ON THE GENESIS OF THE *UNIVERSALS*

Introduction

Praśastapāda (*circa* second half of 6th century A.D.[1]) is one of the principal thinkers of the Vaiśeṣika School of Indian Philosophy. He wrote "*an independent, concise, systematic and comprehensive treatise on the Vaiśeṣika School, the* Padārthadharmasaṃgraha ... [that] *soon eclipsed the glory of all previous works on the* Vaiśeṣika-sūtras ... [and] *became later on the focal point of the Vaiśeṣika literature*".[2]

In this chapter we present another instance of *thematic coincidence* between Vaiśeṣika's and Aristotle's philosophies related to *the genesis of universals* and of the *principia prima.* For the Vaiśeṣika theory on this subject-matter we base our explanation on Praśastapāda's just mentioned treatise.

Definition of sāmānya / universal

Praśastapāda, in Chapter *Sāmānyapadārthanirūpaṇam,* or "*Description of*

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1 According to Erich Frauwallner, *Geschichte der indischen Philosophie*, II, p. 16.

2 Bimal Krishna Matilal, *Nyāyā-Vaiśeṣika*, pp. 62-63.

the category 'universal' (sāmānya)", of his work, *Praśastapādabhāṣya (Padhārthadharmasaṅgraha)*, pp. 741-742, Varanasi edition, and p. 668 in *Nyāyakandalī being a commentary on Praśastapādabhāṣya, with three sub-commentaries*, Vadodara (India) edition,[3] begins giving the definition of *sāmānya*, "universal":

> *sāmānyaṃ dvividham – paraṃ aparaṃ ca / svaviṣayasarvagatam abhinnātmakam anekavṛtti ekadvibahuṣv ātmasvarūpānugamapratyayakāri svarūpābhedenādhāreṣu prabandhena vartamānam anuvṛttipratyayakāraṇam /*

> "'Universal' is of two kinds: 'superior' and 'inferior'. It is omnipresent in its own objects[4]; it resides in many (objects or individuals or particulars) with its identity unbroken; it produces the idea of the sameness[5] of its own form in one, two or many things; it simultaneously exists in [each of] its substrates [or subjects] with non fracture [or difference] in its own form; it is the cause of the idea of sameness."

Praśastapāda in his definition of "universals", *sāmānya*, has recourse to the *ideas of sameness* and *commonness*.

Sāmānya: similarity, commonness

Let us say some words on the semantic value of the term *sāmānya*, because this semantic value has an important presence in the process of *genesis of universals* we are going to deal with.

Sāmānya, according to *Monier-Williams Dictionary*, means as an adjective "equal, alike, similar", and also "shared by others, ... common to", and as a substantive "equality, similarity, identity", "common or generic property." Thus, when the word *sāmānya* is used in its technical

3 In a general way both editions have only light variants that do not affect the meaning of the text.

4 *Nyāyakandalī* comments: *yat sāmānyaṃ yatra piṇḍe pratīyate sa tasya svo viṣayaḥ*: "Whenever a universal is perceived in a thing, this [thing] is an object of that [universal]."

5 The word *anugama*, which is used by both editions as a synonym of *anuvṛtti* has the meaning of "uniformity, commonness, sameness", *Encyclopaedic Dictionary of Sanskrit*, p. 2692.

meaning ("universal") it points to the fact that two or more objects that fall under the same *sāmānya* are *similar*, because they *possess common elements* (as for instance: qualities) or, what is the same, that they *possess common elements*, because they are *similar*. The notions of *similarity* and *commonness* are thus interchangeable.

The Vaiśeṣika authors prefer to use the word *sāmānya* leaning in a general way towards its meaning of "similarity". When dealing with the theory of categories, they use as the criterion of classification and distribution the similarities and dissimilarities that exist among existents, i.e *the common and uncommon characteristics* of what is to be classified. Praśastapāda, p. 15, Varanasi ed. (p. 23, Vadodara ed.), says:

> *dravyaguṇakarmmasāmānyaviśeṣasamavāyānāṃ ṣaṇṇāṃ padārthānāṃ sadharmyavaidharmyatattvajñānaṃ niḥśreyasahetuḥ /*

> "The knowledge of the true nature of the six categories – substance, quality, movement, the universal, the particular, and inherence – through their similarities and dissimilarities is the means of accomplishing the Supreme Good."

And the commentator Śrīdhara in his *Nyāyakandalī, ad locum* glosses:

> *yasya vastuno yo bhāvas*[6] *tat tasya tattvam / sādhāraṇo dharmmaḥ sādharmyam, asādhāraṇo dharmmo vaidharmyam / sādharmyavaidharmye eva tattvaṃ ..., tasya jñānaṃ niḥśreyasahetuḥ /*

> "*True nature* of a thing is its form of being. *Similarity* is a common property. *Dissimilarity* is an uncommon property. *Similarity and dissimilarity* [with and from other things] are the *true nature* [of a thing], ... its knowledge is the means of accomplishing the Supreme Good."

The *Vaiśeṣikasūtras* of Kaṇāda, Praśastapāda, and in general all the authors of the Vaiśeṣika school, all along their treatises enumerate the categories and the component elements of each one of them, and point out the similarities and dissimilarities among all the categories and elements that are included in all of them. As for instance, Praśastapāda in the text just quoted of p. 15, Varanasi ed. (p. 23, Vadodara ed.), enumerates the six *padārthas*, "categories", doing a reference to their similarities and dissimilarities, and

6 The reading *bhāvas* corresponds to Varanasi edition (Manuscript K). Vadodara edition has: *bhāvo yat svarūpas*.

in p. 54, Varanasi ed. (p. 67, Vadodara ed.), he enumerates the similarities among the nine kinds of substances (*dravya*): "earth" (*pṛthivī*), "water" (*apas*), "fire" (*tejas*), "air" (*vāyu*), "ether" (*ākāśa*), "time" (*kāla*), "space" (*dig*), "soul" (*ātman*), "mind" (*manas*):

> *pṛthivyādīnāṃ navānām api dravyatvayogaḥ svātmany ārambhakatvaṃ guṇavattvaṃ kāryyakāraṇāvirodhitvam antyaviśeṣavattvam /*

> "The nine [substances], earth and the rest, possess [the following characteristics:] the partaking of 'substanceness', the capacity of bringing about [the effects that are] in their own nature, the fact of having qualities, the fact of not being destructible by their causes and effects, and the fact of being endowed with ultimate individualities [= the atoms]."

Similarity and commonness in Aristotle and Hobbes

Aristotle (384-322 B.C.) gives in *Topica* 102ª31-35, the definition of *γένος*, *genus* (that can be equated to the notion of '*universal*'), which seems to have more present the notion of *commonness* than that of similarity:

> *Γένος δ' ἐστὶ τὸ κατὰ πλειόνων καὶ διαφερόντων τῷ εἴδει ἐν τῷ τί ἐστι κατηγορούμενον. ἐν τῷ τί ἐστι δὲ κατηγορεῖσθαι τὰ τοιαῦτα λεγέσθω, ὅσα ἁρμόττει ἀποδοῦναι ἐρωτηθέντας τί ἐστι τὸ προκείμενον, καθάπερ ἐπὶ τοῦ ἀνθρώπου ἁρμόττει, ἐρωτηθέντα τί ἐστι τὸ προκείμενον, εἰπεῖν ὅτι ζῷον.*

> "Genus is that which is predicated in the [category of] essence of several things that differ in kind. Let it be said that to predicate in the [category of] essence [is to predicate] such things that are fit to be answered by him who is asked 'What is that before you?', as for instance in the case of man it is fit to be said 'It is a living being' by him who is asked 'What is that before you?'."

"*Living being*" (*τὸ ζῷον*) is the *genus* of man and ox, because if one is asked, in reference to a man and an ox, 'What is that?', one answers 'A living being', applying a *common* epithet to both: *possession of life*.

Porphyrius (232-*circa* 304 A.D.), in his *Isagogé* § 6, p. 3, Vrin edition, explains Aristotle's definition:

> *Τῶν γὰρ κατηγορουμένων τὰ μὲν καθ' ἑνὸς λέγεται μόνου, οἷον Σωκράτης τὰ δὲ κατὰ πλειόνων, ὡς τὰ γένη καὶ τὰ εἴδη κοινῶς ἀλλὰ μὴ ἰδίως τινί.*

> "Among the predicates some are said of one only [being or thing],... as for instance 'Socrates'...; others, as the genera and the species, [are said] of several things,... *in common* but not in an individual manner of one [only being or thing]."

From these texts it is clear that for Aristotle beings or things are of the same *genus* when to all of them can be given the *same* predicate belonging to the category of "essence" (*οὐσία*), i.e. when all of them possess a *common* (*κοινός*) attribute belonging to that category. Aristotle himself defines, as we have seen, which are the predicates belonging to the essence category.

But in his classification of the animal species Aristotle seems to indistinctly adopt both criteria of *similarity* and *commonness* to carry out his task.[7]

Let us say that Hobbes (1588-1679 A.D.), in *Leviathan*, First Part, 4, p. 26, R. Tuck edition, connects '*Universall*' with the notion of "*similarity*" (more in accordance with our Indian author):

> *One Universall name is imposed on many things, for their similitude in some quality, or other accident: And whereas a Proper Name bringeth to mind one thing onely; Universals recall any one of those many.*

Genesis of the universals according to Praśastapāda

After his definition of *sāmānya* Praśastapāda, pp. 742-743, Varanasi ed. (p. 669, Vadodara ed.) describes in an abstract, concise, but notwithstanding clear form the process of arising of any *sāmānya*, "universal":

> *Katham ? pratipiṇḍaṃ sāmānyāpekṣaṃ prabandhena jñānotpattāv abhyāsapratyayajanitāc ca saṃskārād atītajñānaprabandhapratyavekṣaṇād yad anugatam asti tat sāmānyam iti /*

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[7] Cf. Sir David Ross, *Aristotle*, pp. 114-115, and the texts he quotes from *De partibus animalium* and *Historia animalium*.

We give the translation of Praśastapāda's text putting between brackets some explanations either taken from the commentator Śrīdhara, whose text is quoted below, or ours own's:

> "How [is it that one comes to know the existence of the universal in many things]? [The answer is:] There is once and again the arising of a **cognitive act** (*jñāna*), which has as a its correlated object something similar (*sāmānya*) [simultaneously existing] in each one of the objects [that have been successively perceived];[8]
>
> from the **subliminal impression[s]** (*saṃskāra*)[9] originated by the mental representation [once and again produced] by the **reiteration** (*abhyāsa*) [of the cognitive act before described]
>
> [comes forth] the **remembrance** (*pratyavekṣaṇa*) of the simultaneous existence [in all the perceived objects of that something similar which was the correlate] of the previous cognitive act[s];
>
> [and] what follows - [i.e. the intellectual product, cognition or notion born from the previous process: **reiterate similar cognitive acts**, **similar subliminal impressions** and **remembrance**] and is congruent[10] [with the similarity simultaneously existing in all the objects perceived in the previous reiterate cognitive acts] – that is the *sāmānya*[11] [**universal**].

Śrīdhara's commentary, *Nyāyakandalī*, *ad locum*, says:

> ***katham iti*** *parasya praśnaḥ / katham anekeṣu piṇḍeṣu sāmānyasya vṛttir avagamyata ity arthaḥ / uttaram āha –* ***pratipiṇḍam iti*** */ piṇḍaṃ piṇḍaṃ prati sāmānyāpekṣaṃ yathā bhavati, tathā jñānotpattau satyāṃ yo 'bhyāsapratyayas tena yaḥ saṃskāro janitaḥ, tasmād atītasya jñāna****prabandhasya*** *jñānapravāhasya* ***pratyavekṣaṇāt*** *smaraṇād yad anugatam asti tat sāmānyam / kim uktaṃ syāt ? ekasmin piṇḍe sāmānyam upalabhya piṇḍāntare tasya pratyabhijñānād ekasyānekavṛttitvam avagamyate /*

8 The presence of that 'something similar' does not hinder its presence in others.

9 Every experience leaves in the mind a mark, a trail, a subliminal impression (*saṃskāra*) that, under the appropriate circumstances, is reactivated, giving rise to remembrance; in this way the experience ***remains*** in the mind.

10 We have translated *anugatam* of the text by "what follows" and "congruent", because both express two meanings of the Sanskrit word which are adequate to the described process.

11 *Sāmānya* in the first paragraph hints to the simple similarity that exists in each of the objects under consideration, and in the last paragraph, to the intellectual product constituted by the 'universal', and resulting from a complex process of genesis.

Then Praśastapāda, pp. 743-745, Varanasi ed. (p. 670, Vadodara ed.) expresses that the superior (*param*) universal (*sāmānya*) is *sattā* ("the fact of being", "existence") and indicates how the superior universal arises, giving a concrete example referred to a case of an inferior universal ("the fact of being blue") and comparing it with the case of the superior universal ("existence"). This description of the arising of the superior universal complements thus the previous explanation of pages 742-743, Varanasi ed. (p. 669, Vadodara ed.):

> *tatra sattāsāmānyaṃ param anuvṛttipratyayakāraṇam eva / yathā parasparaviśiṣṭeṣu carmavastrakambalādiṣv ekasmān nīladravyābhisambandhān nīlaṃ nīlam iti pratyayānuvṛttiḥ, tathā parasparaviśiṣṭeṣu dravyaguṇakarmasv aviśiṣṭā sat sad iti pratyayānuvṛttiḥ / sā cārthāntarād bhavitum arhatīti yat tad arthāntaraṃ sā satteti siddhā / sattānusambandhāt sat sad iti pratyayānuvṛttiḥ, tasmāt sā sāmānyam eva /*

> "Therein the universal 'existence' is superior, and is only cause of the idea of identity.[12] In the same way as in relation to a piece of leather, of cloth, of blanket, etc., which are different among them, because of their connection with a [same] blue substance there is an identity in the cognition they produce: '[This is] blue', '[That is] blue', so in relation to substance, quality and motion, which are different among them, there is an absolute [= beyond any differentiation] identity in the cognition they produce: '[This is] existent', [That is] existent'. And this [identity in the cognition] must be due to something apart from [them, i.e. the three categories themselves of substance, quality and movement], and this something apart from them is established as 'existence'. Because of the connection with existence there is the identity of cognition: '[This is] existent', '[That is] existent'; for this reason it [= 'the fact of being', "existence"] is a universal."

The mental operation of the *genesis of universals* described by Praśastapāda could be said to be an *inductive* operation, since from the

12 The "superior universal", *sattā*, reunites all the things that exist, but does not differentiate them from anything, since, for the Vaiśeṣika, apart from the existing things nothing else exists. The "inferior universals" (substance, quality, action) reunite all the things that fall under each of them and, besides that, each of them differentiates the things that fall under it from the things that fall under each of the other two.

consideration of 'particulars' (*pratipiṇḍam*) one ascends to the 'universal' (*sāmānya*). Aristotle defines *induction* in *Topica* 105^a13-14:

> *ἐπαγωγὴ δὲ ἡ ἀπὸ τῶν καθ' ἕκαστον ἐπὶ τὸ καθόλου ἔφοδος.*
>
> "Induction is the method of reasoning from the particulars to universals".

Keśava Miśra, in his *Tarkabhāṣā*, p. 58, Chaukhambha Orientalia ed., referring to the *inductive inference* describes it as the establishment of a *general* fact on the basis of the repeated perception of similar *particular* facts:

> *bhūyodarśanena dhūmāgnyoḥ svābhāvikaṃ sambandham avadhārayati, yatra dhūmas tatrāgnir iti.*
>
> "Through the repeated perception of smoke and fire one establishes a natural relation [between the two]: 'Where there is smoke, there is fire."

The genesis of the principia prima *and* universals *in Aristotle*

In *Analytica Posteriora* 99^b15-100^b17 Aristotle expresses that he will deal with the manner in which are apprehended the *first principles* or *premises of the demonstration*, i.e. the *principia prima* (*πρῶται ἀρχαί*). They are the fundament of demonstrations with which are established the knowledges of each science. In fact what Aristotle does is to explain how the *universals* are formed. But Aristotle's description is equally valid for the *genesis of the principia prima* as well as for the *genesis of the universals* as it results clear from his own explanation of 99^b15-100^b5, where he announces that he will deal with *first principles* (*περὶ τῶν ἀρχῶν*), he describes next how do *universals* arise, and, finally, he ends the section pointing out that the *universals* and the *principia prima* are known by induction equating thus the process of acquiring the knowledge of the *primary premises* by induction and that of the *general concepts* conveyed by sense-perception.

Aristotle's description of the *genesis of the first principles* is very interesting for our comparative purpose, because of its points of coincidence with Praśastapāda's description of the *genesis of the universals.*

Aristotle begins posing the question of how the *first principles* are apprehended (99^b17-19). Then he rejects the explanation that the knowl-

edge of the *first principles*[13] has always been present or latent in us (as congenital or innate ideas not perceived), because this would imply that they have escaped our knowledge and we have not been aware of them (99^b25-30). The only possible explanation is that we acquire them, not having possessed them before, and in this case it is necessary to postulate the existence of some special capacity, which giving rise to an adequate process leads us to that acquisition. And this special capacity is "sense-perception" (*αἴσθησις*), which is in fact possessed by all living beings and which allows the constitution of the *universals* (99^b30-35):

> *φανερὸν τοίνυν ὅτι οὔτ' ἔχειν οἷόν τε, οὔτ' ἀγνοοῦσι καὶ μηδεμίαν ἔχουσιν ἕξιν ἐγγίνεσθαι. ἀνάγκη ἄρα ἔχειν μέν τινα δύναμιν, ... Φαίνεται δὲ τοῦτό γε πᾶσιν ὑπάρχον τοῖς ζῴοις. ἔχει γὰρ δύναμιν σύμφυτον κριτικήν, ἣν καλοῦσιν αἴσθησιν·*
>
> "Accordingly, it is evident that it is not possible that we [congenitally] possess [the knowledge of the *first principles*] or that they arise in us not having had the knowledge [of them before] or not possessing a[n adequate] faculty. Then it is necessary to have some [adequate] faculty... It is evident that this [faculty] belongs to all living beings, since they have an innate faculty able to discern, which is called **sense-perception**."

In what follows Aristotle describes the process of *genesis of the principia prima* and *universals*, since both processes, as already said, are *parallel*, according to what Aristotle himself has explained before:

> (99^b36-100^a1) *ἐνούσης δ' αἰσθήσεως τοῖς μὲν τῶν ζῴων ἐγγίνεται μονὴ τοῦ αἰσθήματος, τοῖς δ' οὐκ ἐγγίνεται. ὅσοις μὲν οὖν μὴ ἐγγίνεται, ἢ ὅλως ἢ περὶ ἃ μὴ ἐγγίνεται, οὐκ ἔστι τούτοις γνῶσις ἔξω τοῦ αἰσθάνεσθαι· ἐν οἷς δ' ἔνεστιν αἰσθανομένοις ἔχειν ἔτι ἐν τῇ ψυχῇ.* (100^a1-3) *πολλῶν δὲ τοιούτων γινομένων ἤδη διαφορά*

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13 We refer *αὐτάς*, "them",of 99^b26, not to *αἱ ἕξεις*, "the faculties",of 99^b25, but to *τὰς πρώτας ἀρχὰς τὰς ἀμέσους*, "the first immediate principles",of 99^b21, because of the following reasons: *the first principles* are the subject of the preceding explanations of 99^b15-26; the term *γνώσεις*, "knowledges", of 99^b27, is correctly related to *αὐτάς* *only if* this word designates "*the first principles*", but not if it designates "*the faculties*", which are not "knowledges"; Aristotle himself in 99^b30, remits to what he said before in sections 1, 2, and 3 (71^a1-73^a20) in relation to demonstration, which deal with *the first principles*, as the basis of demonstration; and, finally, Themistius in his *Paraphrasis* of this treatise of Aristotle, *ad locum*, p. 62, lines 30-35, applies this passage (99^b23-30) to *the first principles.*

τις γίνεται, ὥστε τοῖς μὲν γίνεσθαι λόγον ἐκ τῆς τῶν τοιούτων μονῆς, τοῖς δὲ μή. ἐκ μὲν οὖν αἰσθήσεως γίνεται μνήμη, ὥσπερ λέγομεν, (100^{a}4-6) *ἐκ δὲ μνήμης πολλάκις τοῦ αὐτοῦ γινομένης ἐμπειρία· αἱ γὰρ πολλαὶ μνῆμαι τῷ ἀριθμῷ ἐμπειρία μία ἐστίν.* (100^{a}6-9) *ἐκ δ' ἐμπειρίας ἢ ἐκ παντὸς ἠρεμήσαντος τοῦ καθόλου ἐν τῇ ψυχῇ, τοῦ ἑνὸς παρὰ τὰ πολλά, ὃ ἂν ἐν ἅπασιν ἓν ἐνῇ ἐκείνοις τὸ αὐτό, τέχνης ἀρχὴ καὶ ἐπιστήμης.*

(99^{b}36-100^{a}1) "This **sense-perception** existing [in all living beings], in some living beings **permanence of the percepta** is produced, in others it does not. For those [living beings] in whom [permanence of the percepta] is not produced, cognition does not exist with the exception of [mere] sense-perception – [it does not exist] at all [for those in whom permanence of the percepta does not exist at all] or [it does not exist but only] in relation to those [percepta whose permanence is] not produced.

For those [living beings] in whom [permanence of the percepta] is produced, it is possible, once they have perceived something, **to retain** [the percepta] **in their soul**. (100^{a}1-3) When many similar processes are [repeatedly] produced, a distinction immediately arises: in some [living beings] from the **permanence** of such [similar percepta] an **intellectual product** [*logos*, in this case a **universal concept**] is produced, in others it is not.

Thus from **sense-perception memory** arises – as we say – (100^{a}4-6) and from **memory of the same thing repeatedly produced**, **experience** [i.e. an experiential knowledge][14], because the memories [though] numerically many constitute a single experience [i.e. only one cognition, since memories are of similar things].

And when the **universal** is established in the soul (100^{a}6-9) **out of the** [mentioned] **experience** or out of the whole [process] – [**the universal** i.e.] **the one in face of the many**, whatever is present as **one and the same in all those** [multiple] **things** – there is the starting-point of art and science ..."

Aristotle concludes this last paragraph pointing out which is the nature of the epistemological operation that leads to the knowledge of the *universal principles*; it is evident that it is an *inductive operation*,

[14] Cf. The explanation we give in the *Final remarks* of this article on the concept of *ἐμπειρία*, "experience", in Aristotle.

ἐπαγωγή[15]:

... (100^{b}3-4) *δῆλον δὴ ὅτι ἡμῖν τὰ πρῶτα ἐπαγωγῇ γνωρίζειν ἀναγκαῖον· καὶ γὰρ ἡ αἴσθησις οὕτω τὸ καθόλου ἐμποιεῖ.*

"... (100 b, lines 3-4) It is clear that it is necessary for us to know **the first** [**principles** or **premises**] by **induction**, because sense-perception also gives rise to the **universals**."

Example of Themistius
illustrating Aristotle's genesis of the principia prima

Themistius (*circa* 317-*circa* 387) in his *Paraphrasis* of the *Analytica Posteriora*, p. 62, line 35-p. 64, line 16, ed. Maximilianus Wallies, glosses the whole process of constitution of *universals*, and gives, p. 63, lines 17-23, the following example which illustrates that process: one perceives that the hellebore is a purifying substance and this act of perception is repeated several times; and, thanks to the remembrance of the numerous reiterate perceptions of this fact, that experiential knowledge (*ἐμπειρία*)consisting in it that the hellebore is purifying is constituted. Once the experiential knowledge increases and is enriched by other perceptions similar to the previous ones, with the remaining of the memory of them, the universal principle that "*all hellebore purifies*" is constituted and remains in the soul:

ἧς ἐμπειρίας συναυξανομένης τε καὶ προσλαμβανούσης αἴσθησιν ὁμοίαν καὶ μνήμην πήγνυται ἤδη τὸ καθόλου καὶ ἐμμένει τῇ ψυχῇ, ὅτι πᾶς ἐλλέβορος καθαίρει.

Final remarks

The texts that we have presented reveal a great coincidence between Aristotle's description of the *genesis* process of the *principia prima* and the *universals* and Praśastapāda's description of the *genesis of the universals*.

[15] "Induction" is clearly defined by Aristotle in *Topica* 105^{a}13-14, and by Keśava Miśra, *Tarkabhāṣā*, p. 58, already quoted.

1. The first moment in Aristotle's description is *αἴσθησις*, which is generally understood as "sense-perception". Sense-perception, is in the context of Aristotle's epistemological theory a very humble faculty, since it operates with individuals or particulars and for this reason it cannot produce knowledge (*ἐπιστήμη*), which requires the intervention of universals. Cf. *Analytica Posteriora* 87^{b}28-88^{a}8; *Topica* 114^{a}21-22 and 25.

Notwithstanding its humble condition *αἴσθησις* is the starting-point from which the knowledge of the *first principles* and *universals* may be developed.

In Praśastapāda's description it is "an act of cognition or knowledge", *jñāna*, that starts the process of the *genesis of universals*. This act of cognition is specifically an act of perception, *pratyakṣa*, that can be of material things through the five sense-organs, or of ideas and feelings through the mind. Cf. Vātsyāyana *ad Nyāyasūtras* I, 1, 4 (at the end). This characteristic of perception of being of external objects as well as of internal objects (ideas, etc.) opens the possibility that there can be universals of individual material things as well as universals of individual mental things, as for instance: universals of ideas of things existing *in re*, universals of ideas of things existing only *in intellectu*, and universals constituted by the categories (*padārthas*) of the Nyāya system of logic in which are included the means of correct knowledge (perception, inference, etc.), doubt, motive, example, the accepted theory, the members of inference, fallacious reason, etc.

Let us add that contrarily to Aristotle's conception of sense-perception as the humble faculty that gives rise to the whole process of the *genesis of universals*, Praśastapāda uses the word *jñāna* ("knowledge", "cognition") for the same moment of the same process, and *jñāna* is not at all a humble faculty, since it includes also the highest knowledge, derived from meditation, of the one Universal Spirit (*Brahman*) and of the soul (*ātman*).

2. Then in Aristotle's description follows the indication that in some living beings the *permanence* or remaining (*μονή*) of the perceptum, grasped by the act of perception, takes place. In other words, there remains the memory (*μνήμη*) of the thing grasped by the act of perception. This is the second moment of the process.

Praśastapāda in his description uses two words that have to do, the first, with *permanence* or remaining in the mind of the percepta as well as with memory, and the second, with memory. He explains that from the act of cognition (*jñāna*) a *saṃskāra* (subliminal impression) is produced in the mind - according to the Indian theory, to which we have already referred in the previous note 10, that all experience leaves in the sub-conscious or non-conscious level of the mind a "mark", "a trail", an "impression", which in the appropriate circumstances, is re-actualized, giving rise to *remembrance* - thus it can be said that the *experience remains* in some way in the mind. In the word *saṃskāra* there is an *implicit* reference to *permanence* and *remembrance* of the perceptum. Praśastapāda uses also the word *pratyavekṣaṇa* in reference to the intellectual product to which the *saṃskāra* gives rise. This word is glossed by Śrīdhara in his commentary *ad locum* by *smaraṇa*, "remembrance, reminiscence, memory". This is an *explicit* reference to *remembrance* of the perceptum, and consequently of its *permanence* in the mind.

3. Then Aristotle passes to deal with the third stage of the genesis process. *From the memories* left each time by many similar things *repeatedly* perceived an *ἐμπειρία* is produced. *Ἐμπειρία*, in the present context and according to what has been previously said, means knowledge acquired by personal experience through acts of sense-perception of similar things, whose memory remains fixed in the memory. *From this ἐμπειρία* or from the whole genesis process just described the *universal* (we can add: or the *principium primum*) is constituted, *fixed*, consolidated in the mind. It could be said that the knowledge, which is the *ἐμπειρία*, is in fact the *universal*.

In Praśastapāda we find the description of a very similar process. For Praśastapāda the universal, *sāmānya*, is that mental product, concept or notion that comes forth from similar remembrances (*pratyavekṣaṇa*) produced by the similar impressions (*saṃskāra*) left by reiterate cognitive acts (*jñāna*) of the similarity that exists in many objects.

4. Aristotle mentions in p. 100^{a}7-8, already quoted, the characteristics of the universal: *ἓν παρὰ τὰ πολλά*, "the one in face of the many", *τὸ αὐτό*, "the same". The *many* are *unified* in the universal, which is present in all of them:

τοῦ ἑνὸς παρὰ τὰ πολλά, ὃ ἂν ἐν ἅπασιν ἓν ἐνῇ ἐκείνοις τὸ αὐτό ...

Aristotle himself, in *De interpretatione* 17^{a}38-17^{b}1, makes reference to both characteristics of *oneness* opposed to multiplicity and *com-*

monness to several individuals:

λέγω δὲ καθόλου μὲν ὃ ἐπὶ πλειόνων πέφυκε κατηγορεῖσθαι

where the word *ὅ* in singular hints to *unity*, and what can be predicated (*κατηγορεῖσθαι*) of many things is *common* to all of them.

Themistius, in page 63, lines 16-17, of his *Paraphrasis* of *Analytica Posteriora*, refers explicitly to *sameness*:

τὸ καθόλου τὸ ὅμοιον καὶ ταὐτὸν ἐν τοῖς καθ' ἕκαστον καὶ τὸ ἓν τοῖς πολλοῖς.

and implicitly to *oneness* as opposed to plurality, where *τὸ καθόλου* in singular is opposed to *τοῖς πολλοῖς*. Cf. *ibidem*, p. 64, line 1:

τὸ καθόλου τὸ ἐν τοῖς καθ' ἕκαστον ὅμοιον.

And Porphyrius in *Isagogé*, § 6, p. 3, Vrin ed., implicitly refers to both characteristics:

Τῶν γὰρ κατηγορουμένων τὰ μὲν καθ' ἑνὸς λέγεται μόνου, ... οἷον Σωκράτης τὰ δὲ κατὰ πλειόνων, ὡς τὰ γένη καὶ τὰ εἴδη ... κοινῶς ἀλλὰ μὴ ἰδίως τινί.

"Among the predicates some are said only of one [being or thing], ... as for instance 'Socrates'..., others of several things, as the genera and the classes, ... in common but not in an individual manner of one [being or thing]."

Praśastapāda, in his definition of *sāmānya*, universal, pp. 741-742, Varanasi ed. (p. 668, Vadodara ed.), of his treatise (already quoted and translated in the previous section *Definition of sāmānya/universal*) mentions *unity* opposed to plurality and *similarity* as characteristics of *sāmānya*:

abhinnātmakam anekavṛtti, ekadvibahuṣv ātmasvarūpānugamapratyayakāri, svarūpābhedenādhāreṣu prabandhena vartamānam anuvṛtti-pratyayakāraṇam.

Śrīdhara, in p. 744, Varanasi ed. (p. 670, Vadodara ed.), commenting Praśastapāda's text of pp. 742-743, Varanasi ed. (p. 669, Vadodara ed.) (quoted also in the previous section) makes reference to the opposition

between the *unity* of the universal and the *plurality* of the objects which fall under it:

ekasmin piṇḍe sāmānyam upalabhya piṇḍāntare tasya pratyabhijñanād ekasyānekavṛttitvam avagamyate.

"Having cognized [something that constitutes] a universal in one object, on recognizing [afterwards] it in another object, one comes to know that *one* universal is perceived in *many* objects."

It was not need for him to refer to the characteristic of *sameness* of the universal (the same in all), because this characteristic is already implicit in the Sanskrit word *sāmānya*: "similarity, universal".

The texts quoted in this article and the remarks that accompany them make it evident that Aristotle and Praśastapāda have numerous remarkable points of coincidence in their ideas about *how* the *universal, one*, comes forth from *many*, as well as about which are the *essential characteristics* of the *universal*. These coincidences provide a new support to the theses we have maintained in our publications mentioned in the *Preface* of this book concerning Indian and Western philosophies, and offer a new instance of what can be called the "*intrinsic globality of philosophical thought*", when the same cultural and intellectual conditions are given and when the human mind responds to similar determinate questions.

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CHAPTER IV

ON SPONTANEOUS GENERATION: BUDDHISM, PRAŚASTAPĀDA AND ARISTOTLE

Introduction

Spontaneous generation, also called *generatio per putrefactionem*, *generation without parents*, *abiogenesis*, *generation equivocal*, *non sexual generation*, *generation without a preexistent cause*, has been an imaginary biological process that has interested many Western thinkers – scientists, theologians, philosophers – since Aristotle (*circa* 384-322 B.C.), who was the first in Western Culture to carefully study the subject, dedicating to it many pages of his remarkable treatises on animals. The precise meaning of these expressions and terms will become clear in the course of this chapter. The basic characteristic of the spontaneous generation is that no living being takes part in its production.

Aristotle accepted the existence of spontaneous generation, and the belief in creatures born by spontaneous generation lasted in the West for more or less twenty three centuries, until the middle of the 19th century when Louis Pasteur demonstrated that the so-called *spontaneous generation* was the product of living beings visible only with the aid of microscope. Henry Harris opens his book, *Things come to life. Spontaneous generation revisited*, with the sentence: "*Old ideas die hard*", and mentions as examples of the resistance of old wrong theories to be left aside what happened with Copernicus, Harvey, Newton, Darwin, and spontaneous generation of course. Harris adds, pp. 5-6:

"The durability of these beliefs was due to two related factors: the ecclesiastical scholasticism of the Middle Ages and the intellectual dominance of Aristotle. Learning, for more than a millennium, was very largely in the hands of the Church, which did not encourage, indeed militated against, empirical enquiry. And at the centre of the learning sanctioned by Church doctrine were the works of Aristotle. It was not until the scientific revolution of the seventeenth century that assertions made by Aristotle were systematically challenged."

India is not the only region of the world where old wrong traditions maintain their power as the European ethnocentrism wants people to believe.

The subject-matter of this article was inspired to us by the excellent monograph written by Dag Nikolaus Hasse, *Urzeugung und Weltbild. Aristoteles, Ibn Ruschd, Pasteur* and published in 2006. We thought it would be interesting to have a look at the Indian conception of *spontaneous generation*, one of the diverse kinds of birth (*yonis*), and to compare it with Aristotle's conception of the same matter. We are sure that the comparison of both conceptions of the same biological process could yield a broader perspective on both conceptions.

We have chosen for our comparison among the Indian testimonies on this subject some *Buddhist texts* from the *Pāli Suttas*, compiled soon after the death of the Buddha, *circa* 480 B.C., the *Abhidharmakośa*, composed by Vasubandhu (4th or 5th century A.D.), and commented by Vasubandhu himself and Yaśomitra (9th century A.D.), and the *Mahāvastu-avadāna* (2nd century B.C.); and a section of the treatise of a great Hindu thinker of the Vaiśeṣika philosophical school, Praśastapāda (6th century A.D.).

Nevertheless, let us point out that the *Buddhist Texts* from the *Pāli Suttas* which we analyze in this chapter are not the most ancient Indian texts referring to different forms of being born. In texts belonging to the Brahmanical tradition, probably previous to the Buddhist texts, are also found references to a classification of beings according to their way of naissance. The *Chāndogya Upanishad* VI, 3, 1, mentions beings that are "born from an egg" (*āṇḍaja*), "born from a living being" (*jīvaja*), and "born from a sprout" (*udbhijja*); and the *Aitareya Upanishad* III, 3, also mentions beings "born from an egg" (*āṇḍaja*), "born from a womb" (*jāruja*), "born from perspiration" (*svedaja*), "born from a sprout" (*udbhijja*).

Spontaneous generation has been believed to occur not only among animals but also among human beings in India as well as in the West.[1] Human spontaneous generation is freely referred to in Buddhist texts and in Praśastapāda's treatise as a process that happened in the past and happens also at present as it will be seen in the texts quoted in the following pages. Aristotle limits himself to animal spontaneous generation as a process that takes place currently at the present. When the option of a God Creator is not accepted, spontaneous generation or any other similar but more complex process, both not requiring the intervention of the supernatural, has served many times to explain the creation of life in the world.[2] Buddhism, which does not accept the existence of a divine Creator and Governor of the world, solved the problem of the origin of life having recourse to the principle of beginninglessness (*anāditva*) according to which life has existed from a beginningless eternity.[3]

I. BUDDHISM

Buddhist texts on spontaneous generation

The Majjhima Nikāya and the Dīgha Nikāya Pāli Suttas

In the Pāli Suttas, the oldest Buddhist texts, is stated that there are four *yonis* or "ways of being born" or "generation": *aṇḍaja*, "oviparous", *jalābuja*, "viviparous", *saṃsedaja*, "moisture-sprung", *opapātika*, "who

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[1] François De Graux, "La generation spontanée de l'homme", pp. 147-176, gives interesting information about the subject-matter of *human* and *animal* spontaneous generation. When he refers to examples of animal spontaneous generation (pp. 159-164) the influence of Aristotle is evident.

[2] Cf. Henry Harris, *Things come to Life. Spontaneous Generation Revisited*, pp. 157-159; Dag Nikolaus Hasse, *Urzeugung und Weltbild*, p. 6.

[3] Cf. F. Tola and C. Dragonetti, "*Anāditva* or Beginninglessness in Indian Philosophy", pp. 1-20.

(suddenly) appears"[4].

In the *Majjhima Nikāya* I, p. 73, for instance, is said:

Catasso kho imā sāriputta yoniyo, katamā catasso: aṇḍajā yoni, jalābujā yoni, saṃsedajā yoni, opapātikā yoni.

Katamā ca sāriputta aṇḍajā yoni: Ye kho te sāriputta sattā aṇḍakosaṃ abhinibbhijja jāyanti, ayaṃ vuccati sāriputta aṇḍajā yoni.

Katamā ca sāriputta jalābujā yoni: Ye kho te sāriputta sattā vatthikosaṃ abhinibbhijja jāyanti, ayaṃ vuccati sāriputta jalābujā yoni.

Katamā ca sāriputta saṃsedajā yoni: Ye kho te sāriputta sattā pūtimacche vā jāyanti pūtikuṇape vā putikummāse vā candanikāya vā oḷigalle vā jāyanti, ayaṃ vuccati sāriputta saṃsedajā yoni.

Katamā ca sāriputta opapātikā yoni: Devā nerayikā ekacce ca manussā ekacce ca vinipātikā; ayaṃ vuccati sāriputta opapātikā yoni.

"These, Sāriputta, are the four ways of being born. What are the four? Being born from an egg, being born from a placenta, being born from moisture [produced by putrefaction], being born by [sudden] appearance.

And what, Sāriputta, is the way of being born from an egg? Whatever beings are born, Sāriputta, forcing their way through the eggshell - that, Sāriputta, is called being born from an egg.

And what, Sāriputta, is the way of being born from a placenta? Whatever beings are born, Sāriputta, forcing their way through a membranous shell - that, Sāriputta, is called being born from a placenta.

And what, Sāriputta, is the way of being born from moisture [produced by putrefaction]? Whatever beings are born, Sāriputta, in a rotten fish or are born in a rotten corpse or in rotten boiled rice or in a dirty pool at the entrance of a village or in a sewer - that, Sāriputta, is called being born from moisture [produced by putrefaction].

And what, Sāriputta, is the way of being born by [sudden] appearance? Gods, those [beings] doomed to suffering in hell, some men, some [beings] liable to punishment after death - that, Sāriputta, is called being born by [sudden] appearance."

4 This way of being born does not partake of any of the three previous indicated ways of being born. Beings who are born in this way *simply* appear, occur, take place, come into life. The word *opapātika* is commonly translated –wrongly in our opinion- by "spontaneous". The predominant characteristic in this kind of beings is their *sudden* coming into existence, while the other three kinds of being born require a previous, well-determined process, and a lapse of time for it, which result in the production of the new being. We will come back to this concept later on in this same chapter.

In the *Dīgha Nikāya* III, paragraph (XXXVI), p. 230, there is a brief reference to the four *yonis*:

Catasso yoniyo. Aṇḍaja-yoni, jalābuja-yoni, saṃsedaja-yoni, opapātika-yoni.

"[There are] four ways of being born: Being born from an egg, being born from a placenta, being born from moisture [produced by putrefaction], being born by [sudden] appearance."

The Abhidharmakośa and the Mahāvastu-avadāna Sanskrit texts

In the *Abhidharmakośa* of Vasubandhu (4th or 5th century A.D.), a Buddhist text belonging to the *Abhidharma* of the Vaibhāṣika School, one of the eighteen Hīnayānist sects, and commented by Vasubandhu himself and Yaśomitra (9th century A.D.), is found the same classification of beings according to their way of being born, with examples of beings pertaining to each category. Thus, in the commentary *ad* III, *kārikā* 8, after having affirmed in the *kārikā* 8 *d* that there are four "ways of being born" (*yoni*), Vasubandhu enumerates them:

aṇḍajā yonir jarāyujā saṃsvedajā upapādukā yoniḥ /…

aṇḍajā yoniḥ katamā? Ye sattvā aṇḍebhyo jayante / tad yathā – haṃsakrotñcacakravākamayūraśukaśārikādayaḥ /

jarāyujā yoniḥ katamā? ye sattvā jarāyor jāyante / tad yathā – hastyaśvagomahiśakharavarāhādayaḥ /

saṃsvedajā yoniḥ katamā? ye sattvā bhūtasaṃsvedāj jāyante / tad yathā – kṛmikīṭapataṅgamaśakādayaḥ /

upapādukā yoniḥ katamā? ye sattvā avikalā ahīnendriyāḥ sarvāṅgapratyaṅgopetāḥ sakṛd upajāyante / ata eva upapādane sādhukāritvād 'upapādukāḥ' ity ucyante, tad yathā – devanārakāntarābhavikādayaḥ // 8 //

"Being born from an egg, from a placenta, from moist heat [produced by putrefaction], being born by [sudden] appearance …

What is the way of being born from an egg? Whatever beings are born from eggs [belong to this class], as, for instance, the goose, the curlew, the *cakra* bird, the peacock, the parrot, the *maina* bird, etc.

What is the way of being born from a placenta? Whatever beings are born from a placenta [belong to this class], as, for instance, the elephant, the horse,

the cow, the buffalo, the donkey, the pig, etc.

What is the way of being born from moist heat [produced by the putrefaction] of nature? Whatever beings are born from moist heat [produced by the putrefaction] [belong to this class], as, for instance, worms, insects, butterflies, mosquitoes, etc.

What is the way of being born by [sudden] appearance? Whatever beings originate entire, with their organs unimpaired, endowed with all their members and secondary members[5], suddenly, [belong to this class][6], and because of their effective way of acting in their appearance, they are called 'those who appear', as, for instance, Gods, creatures reborn in hell, beings which are in the intermediate state, etc."[7]

In the *Mahāvastu-avadāna* (2nd century B.C.), a text of the *Vinaya Piṭaka* of the Canonical literature of the Lokottaravādin sect belonging to the Mahāsaṅghika group of Northern Central India, is said that in ancient times there existed powerful Universal Monarchs (*cakravartins*) that were born as *aupapādukas* beings and mentions a large number of them giving their names. Cf. pp. 153, line 16-154, line 3 (Senart edition = pp. 181-182 Basak edition).

Remarks on the previous Buddhist texts

Beings born from moisture are born from a cause

Concerning the beings that are born *in* the putrid places enumerated by the *Majjhima Nikāya*, the *Dīgha Nikāya* and the *Abhidharmakośa*, let us say that they are born *from* the moisture or moist heat produced by putrefaction; it is *from moisture* or *moist heat* that they come forth entering into the realm of life; that moisture or moist heat replaces the egg and the placenta or the mother and the father; they are not born *from nothing*; the moisture or moist heat is the *cause* of their birth. This characteristic agrees with the

5 Forehead, nose, chin, fingers, ears, etc.

6 The text includes in what follows an etymology of the term *upapāduka*. See the next section.

7 Reference to the state of existence between death and rebirth.

Buddhist doctrine of causation, which maintains that all that happens must happen by the power of some cause.

The idea of spontaneous generation as a generation from nothing does not apply in Buddhism. This is clearly indicated, in the case of the *Majjhima Nikāya* and the *Dīgha Nikāya*, by the use of the suffix *-ja* ("born") in the Pāli word *saṃsedaja*, and, in the case of the *Abhidharmakośa*, by the use of the same suffix *-ja* in the Sanskrit word *saṃsvedaja*, and also of the word *jāyante* ("are born") with ablative.

Karman as the remote and principal cause of rebirth

Moisture or moist heat is the nearby cause, but the remote and principal cause of any way of being born is *karman*, a basic idea in Indian thought, according to which causation and action (*karman*) govern everything in nature.

The *karman* is an unseen (*adṛṣṭa*) force constituted by the merits or meritorious (*dharma*) human actions (*karman*) and demerits or wicked (*adharma*) human actions (*karman*) – actions done in all the reincarnations living beings have to go over. These merits and demerits have been endowed with actual and substantial existence and with a limitless and universal power to distribute rewards and punishments.

The individual *karman* governs the individual destiny, and all the individual *karmans* as a whole govern all the processes of the universe. The function of a governor attributed to God in the theistic philosophical and religious systems is transferred in Buddhism (a religion without God) to *karman*.

For Buddhism all living beings are reborn, come to their new existence, through any of the mentioned *yonis* (ways of being born), according to their good or bad *karman*: their kind of birth (*yoni*) depends on their *karman*, which is thus also a cause of the kind of birth. Also depend on *karman* the different destinies (*gati*) in which any living being is reborn, for instance, as a *horse* or as a *man*, both *viviparous*, but with a different level of existence, or as a *God* or as a *Riṣi* (ancient Sage) or as an *infernal being*, belonging these last three destinies to the *opāpatika* way of being born, but with a different level of existence. God, human being, animal, insect, a being condemned to hell, a ghost are the diverse destinies or states of life or spheres of existence (*gati*) in the Buddhist conception of existence.

An explicit reference to the *karman* theory connected with the *yonis* is not found in the Buddhist texts we quote in this chapter, but it has to be obviously understood in them, because it provides the Buddhist explanation of any kind of existence or process that takes place in the world. In the Hindu context Praśastapāda, to whom we shall refer afterwards, makes an explicit reference to *karman* in order to explain the diverse forms of being born (*yonis*) of living beings.

Despicable characteristics of beings born from moisture

Buddhaghosa (5[th] century A.D.) states in his commentary to the *Dīgha Nikāya*, *Sumaṅgala-vilāsinī* (Part III, p. 1024, Paragraph XXXVI), that beings born from moisture (*samsedaja*) are born dull and small (*Samsedajā mandā daharā hutvā nibbattanti*).

Arising process, examples and places of birth of beings born from moisture

1. Contrarily to what happens in Aristotle's texts we shall deal with later on, in Buddhist texts there is no description of the biological arising *process* through which the beings born from moisture or moist heat are produced. This may constitute a manifestation in ancient India of that sane and rare human tendency (mostly characteristic of science) *to keep silent in face of a fact*, which is beyond the capacity of knowledge, because it cannot be submitted to a rational analysis. In this case the reference is to a *biological fact* that Buddhism cannot rationally explain. Another instance of this same attitude is the Buddhist conception of man as a conglomerate of those processes of mental and corporeal nature to which the analysis has access through reason and observation of empirical facts, without giving intervention to hidden, supernatural factors as the "vital principle", the "spirit", the "soul".

The German Indologist Paul Thieme, in "Etymologie – einst und heute", in *Kleine Schriften* II, p. 1018, praises the high scientific wisdom of Pāṇini, the great Indian linguist, which led him to remain silent when a functional etymological analysis was not possible, as for instance in the

case of nominal roots that could not be resolved into constituent elements from a synchronic point of view in a rational way.

2. The *examples* given by the Buddhist texts of the beings born from moisture and the information on the *places* where or from where they are born are very scarce - also contrarily to what happens in Aristotle's texts on animals.

From the Buddhist texts that we have quoted only the *Abhidharmakośa* of Vasubandhu gives four *examples* of beings born from moisture: small animals as *worms*, *insects*, *butterflies*, *mosquitoes*; the other Buddhist texts refer to diverse kinds of extra-ordinary beings (see the next section *Other remarks on the* yonis).

3. Concerning the *places* where or wherefrom beings born from moisture arise, the *Majjhima Nikāya* mentions *putrid places*, as *rotten fish*, *rotten corpse*, *rotten boiled rice*, *sewer*, and Vasubandhu and Yaśomitra in their commentaries to the *Abhidharmakośa* refer to *pustules* (*piṭaka*) in diverse parts of the body of some kings (as the head, the knee, the chest), where several extra-ordinary beings came into life in the past, and also to the *lotus flower which grows in the mud* (place of birth of the brahmin Pokkharasāti), and to the *foot of a mango tree* (place of birth of Āmrapālī, a courtesan, who donated her mango grove to the Buddha).

The opapātika *(Pāli) /* aupapāduka *or* upapāduka *(Sanskrit) beings*

The three words, *opapātika*, *aupapāduka*, *upapāduka*, are constructed with a suffix *upa-* and the root *PAD-*. Among the basic meanings of *upa-PAD-* are "to take place", "come forth", "be produced", "appear", "occur", "happen". Accordingly, the *opapātikā*, *aupapādukā* or *upapādukā beings* are those *beings that simply take place*, etc.

Buddhaghosa's commentary *Majjhimanikāyāṭṭhakathā*, Part II, p. 36, points out as a characteristic of the *opapātikā beings* that they come to life without the intervention of those causes which give rise to the other beings, as eggs, placenta, putrefaction (*Vinā etehi kāraṇehi uppatitvā viya nibbattā ti* opapātikā).

Buddhaghosa's commentary on the *Dīgha Nikāya*, the *Sumaṅgala-vilāsinī*, Part III, p. 1024, Paragraph XXXVI, also affirms that the *opapātikā beings* come into existence suddenly in a quick process (*Vegena āgantvā uppatitā viyā ti* opapātikā).

The *Abhidharmakośa* points out the characteristics of the *upapādukā beings*: they "originate entire (*avikala*), with their organs unimpaired (*ahīnendriya*), endowed with all their members and secondary members (*sarvāṅgapratyaṅgopeta*), suddenly (*sakṛt*)".

Yaśomitra's commentary *ad locum* adds that these beings are born without being submitted to the regular order of birth (as embryo, etc.) proper of the other kind of beings, as those born from eggs and placenta (*na kalalādyanupūrvyā aṇḍajādivat*), and without the intervention of semen and blood (*śuklaśoṇitādyanupādānena*).

It was a wise finding of Buddhism in the first stages of its development to have conceived the "*opapātika* (apparitional)" way of being born for a number of beings who, because of their special nature, could not be attributed a birth from ordinary mother and father. How to admit that a being condemned to hell could be born in hell, as a baby, from a couple condemned to hell after enjoying sexual union? How to admit that powerful beings like Gods could be born in heaven as defenseless and weak creatures? Similar reasons could be adduced for the other beings born as *opapātikas*.

Probably similar ideas led cultures other than Indian to the same conception of extra-ordinary births influenced by diverse reasons, as the will of purity in the case of Jesus, born from a virgin mother, and the impossibility to imagine a Goddess of Wisdom as an ordinary child not in possession of all her intellectual power, in the case of Pallas Athena, born from the head of Zeus, his father.

Other conceptions on the yonis *that seem of later origin*

In Buddhaghosa's commentaries of the *Majjhima Nikāya*, Part II, p. 36, Paragraph 48, and of the *Dīgha Nikāya*, Part III, p. 1024, Paragraph XXXVI, in Vasubandhu's *Abhidharmakośa*, III, *kārikā* 9, in his own commentary and in its sub-commentary by Yaśomitra, are also found other remarks on the *yonis*, many of which seem to be of an origin later than the remarks just presented. They give an important place to the fantastic elements and to the legendary tradition of the Buddhist community not found in the two quoted *nikāyas*. They evidently express the will to integrate all beings – real or imaginary – in the *yoni* system established by the ancient Pāli Suttas.

1. The commentary of the *Majjhima Nikāya* points out that the supreme Gods (*uparideva*) beginning with the group of the Four World Guardians (*Cātummahārājika*) are born as *opapātikas*, but the other Gods (*Bhummadeva*, Terrestrial Deities) of inferior rank may be born in any of the four *yonis*.

Some men are born as *opapātikas*, but now almost all are born from a placenta (*jalābuja*), although some men in the past were born from an egg (*aṇḍaja*), as the two monks, sons of Konta, and others were born from moisture (*saṁsedaja*) as, for instance, the Brahmin Pokkharasāti who had as womb a lotus.

Among those liable to punishment after death (*vinipātika*), there are *opapātikas*, as the *Nijjhāmataṇhikā* ghosts (*peta*) doomed to suffer in hell; the rest can be born in any of the four *yonis*.

The *yakṣas* (*yakhā*), all the quadrupeds, the winged ones, the beings of the snake kind, etc., all of them can be born in any of the four *yonis*.

2. The commentary of the *Dīgha Nikāya*, affirms that the *opapātika beings* come to existence at the age of sixteen years (*opapātikā soḷasa-vass' uddesikā hutvā*); contrarily to those beings born from moisture (*saṁsedaja*) they arise physically developed and with all their intellectual faculties complete.

Men (*manussa*) and Terrestrial Deities (*bhummadeva*), and also animals (*tiracchāna*) as the mythical ones (*supaṇṇa-nāg'ādi*), may be born in any of the four *yonis*.

This commentary agrees with that of the *Majjhima Nikāya* on affirming that the Supreme Gods (*uparideva*), and those doomed to suffer in hell (*nerayika*) are *opapātikas*, and that the ghosts (*peta*) may be born in any of the four *yonis*.

3. Vasubandhu in his own commentary to the *Abhidharmakośa* III, *kārikā* 9 *a-d*, and Yaśomitra in his sub-commentary to Vasubandhu's treatise indicate the ways of being born that correspond to the diverse beings.

Men (*manuṣya*) can be born 1. from an egg, as the monks Śaila and Upaśaila (already referred to in the commentary to the *Majjhima Nikāya*), the thirty two sons of the mother of Mṛgāra, the five hundred sons of the King of Pañcāla; 2. from a womb, as it happens nowadays[8]; 3. from moisture produced by putrefaction, as the diverse personages of Buddhist tradition Māndhātṛ, Cāru, Upacāru, Kapotamālinī, Āmrapālī, etc.; 4. as

[8] Vasubandhu clearly separates the fantastic mythical events he has referred to from the reality of his own historical time.

upapādukas like men born in the beginning of each cosmic period[9].

Animals (*tiryañc*) can be born in the four *yonis*: only those of the three first classes are seen. To the fourth kind, that of the *upapāduka*, belong the mythical animals nāgas, garuḍas, etc.

Beings condemned to hell (*nāraka*) are born as *upapādukas* and also the *antarbhāvikas* (those beings in the intermediate state, cf. note 7 of this chapter) and the Gods.

Ghosts (*preta*) are born from a placenta (*jarābuja*).

4. The old Buddhist treatise *Majjhima Nikāya* mentions as creatures born from *moisture* (third *yoni* corresponding to Aristotle's spontaneously born beings) only *small beings* that can be lodged in small places as a *rotten fish*. The *Abhidharmakośa* in the commentary *ad* III, 8 enumerates as beings born from moisture only *small insects*.

But afterwards there was a change in the Buddhist conception. In Vasubandhu's *Abhidharmakośa*, commentary on *kārikā* III, 9 (4th or 5th century A.D.), in Buddhaghosa's commentaries of the *Majjhima Nikāya* and the *Dīgha Nikāya* (5th century A.D.), and in the sub-commentary of the *Abhidharmakośa* by Yaśomitra on *kārikās* III, 8 and 9 (9th century A.D.) it is taught that *big beings* may be born from moisture. The *big beings* are in general imaginary beings created by fancy and preserved in Buddhist religious tradition. Praśastapāda, a Hindu author of the 6th century A.D. that we shall mention later on, does not refer to *big beings* as born from moisture.

A wrong interpretation of opapātika *and the other related words*

Opapātika and the other related terms have been –as said- often translated by "spontaneous". We consider this translation as a wrong interpretation due to the influence of Aristotle that is what has given rise to a misinterpretation of the Indian *opapātika* concept by Western translators and Pāli dictionaries.

Aristotle considers that beings arisen *ex putrefactione* have a *γένεσις αὐτόματος* or are born *ἀπὸ ταὐτομάτου*. The Greek word *αὐτόματος* has the following meanings: in relation to persons, *acting of one's own will, of oneself*; in relation to inanimate things, *self-acting, spontaneous*; in relation to plants, *growing of themselves*; in relation to events,

9 When a cosmic period comes to an end and a new cosmic period begins men are not *born "from"* but they are born *suddenly*, *without parents*, they are *upapādukas*.

happening of themselves, without external agency, without visible cause, accidental (Liddell-Scott, *Greek-English Lexicon*). No one of these meanings has to do with the etymology of the Indian words *opapātika / aupapāduka / upapāduka* that only indicate the mere *fact of appearing, of coming into existence*. An *opapātika being* is a living being whose birth consists in the simple act of appearing. It is why *opapātika* is sometimes translated by "apparitional (being)".

Notwithstanding the fact that the meaning of the Pāli word *opapātika* ("apparitional") has nothing to do with the meaning of the Greek word *αὐτόματος* ("spontaneous"), anyhow the Indian *opapātika* beings and Aristotle's spontaneously generated beings agree in the fact that both are born "without there being any parents"[10]. This is also an attribute of the Indian *saṃsedaja* or *saṃsvedaja* beings, i.e. "born from putrefaction".

The *opapātikas* are born *without parents*, but they are born *from the cause* provided by their *karman*, and are born in the *opapātika yoni* in any of the different kinds of beings that have access to it, also according to their *karman*; and they are all born *sponte*, suddenly.

II. PRAŚASTAPĀDA

The yonis *theory in Praśastapāda*

It is interesting to refer, besides the Buddhist conception of the four *yonis*, to the *yonis* theory as presented by the Hindu Philosopher of the Vaiśeṣika system, Praśastapāda (6th century A.D.), in his *Padārthadharmasaṅgraham*.

But firstly let us remind that the Vaiśeṣika is the most important Indian system of Philosophy of Nature. It came into existence some centuries before Christ, and, according to tradition, was created by Kaṇāda (most probably a legendary personage) to whom is attributed the composition of the *Vaiśeṣikasūtras* ("The Aphorisms of the Vaiśeṣika"), the basic treatise of the system.

The Vaiśeṣika system maintains an atomistic explanation of na-

10 Definition of "spontaneously generated beings" as given by Dag Nikolaus Hasse in "Spontaneous Generation and the Ontology of Form in Greek, Arabic, and Medieval Latin Sources", in *Classical Arabic Philosophy: Sources and Reception*, p. 150.

ture[11], which can be compared with the ancient Greek atomistic theory and which had a wide acceptance in India.

It is generally accepted that the Vaiśeṣika was originally an atheistic system and that from around 500 A.D. transformed itself into a theistic system[12]. In relation to Praśastapāda Frauwallner considers that he adhered to theism,[13] and his opinion is accepted by many scholars. Nevertheless we think this is a wrong idea, we are not going to deal with here.[14]

Praśastapāda, *Padārthadharmasaṃgraha*, p. 82, Durgādhara Jhā ed., showing the different kinds of bodies related to the *Earth* (which is the first of the nine substances the Vaiśeṣika mentions), explains the different forms of being born for a body, and says:

śarīraṃ dvividhaṃ yonijam ayonijañ ca /
tatrāyonijam anapekṣya śukraśoṇitaṃ devarṣīṇāṃ śarīraṃ dharmaviśeṣasahitebhyo 'ṇubhyo jāyate / kṣudrajantūnāṃ yātanāśarīrāṇyadharmaviśeṣasahitebhyo 'ṇubhyo jāyante /
śukraśoṇitasannipātajaṃ yonijam / tad dvividhaṃ jarāyujam aṇḍajañ ca / mānuṣapaśumṛgāṇāṃ jarāyujam /
pakṣisarīsṛpāṇāṃ aṇḍajam /

"The body is of two kinds: born of a womb, and not born of a womb.

Therein the body not born from a womb, of Gods and Riṣis, independent of the semen and the [menstrual] blood[15], is born from atoms associated with determinate meritorious deeds. The bodies, of little insects, which serve as punishment, are born from atoms associated with determinate non-meritorious deeds.

[The body] born of the womb is born from the conjunction of the semen and the [menstrual] blood. It is, on its turn, of two kinds: born from the placenta [viviparous] and born from an egg [oviparous]. [The body] born from the placenta is proper of man, cattle, wild beasts.

[The body] born from an egg is proper of birds, reptiles."

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11 Cf. E. Frauwallner, *Geschichte der indischen Philosophie*, Band II, pp. 81-85, 162 ff., 259-261, 291, 221 ff.; B. Faddegon, *The Vaiçeṣika-System*; J. Sinha, *A History of Indian Philosophy*, Vol. I, pp. 357-365; A.B. Keith, *Indian Logic and Atomism*, pp. 208-229.

12 Cf. J. Sinha, *A History of Indian Philoophy*, Vol. I, p. 358; E. Frauwallner, "Der ursprüngliche Anfang der Vaiśeṣika-Sūtren", in *Nachgelassene Werke*, I, p. 36.

13 E. Frauwallner, "Der ursprüngliche Anfang der Vaiśeṣika-Sūtren", in *Nachgelassene Werke*, I, p. 36, affirms: "*For Praśastapāda the Maheśvara* [Supreme God] *is the Creator of the world and in the introductory verse of his* Padārthadharmasaṃgraha *he professes his faith in Him.*"

14 We are preparing an article on the atheistic character of Praśastapāda's *Padārthadharmasaṃgraha.*

15 Julius Jolly, *Indian Medicine*, p. 73.

Remarks on Praśastapāda's text

Atheistic and theistic positions on karman and the union of atoms

According to Praśastapāda there are for a body two ways of being born: from a womb and not from a womb (*yonija*/*ayonija*). Bodies are built by the union of atoms. This union is not at random.

The earlier Vaiśeṣikas who adhered to the atheistic position asserted that the union of the atoms is promoted, directed and governed by the meritorious or wicked *karman*; those later Vaiśeṣikas who had a theistic position asserted that the union of the atoms was promoted, directed and governed by God, who acts taking into account the *karman* of beings.

When the theistic interpretation is attributed to Praśastapāda, then the union of the atoms is promoted, directed, and governed by God considering the meritorious or wicked *karman* of beings, but in the present text God is not mentioned, and the explanation of the union of the atoms depends only on *karman*.

The present text states that the living beings, who have a very meritorious *karman* are born as Gods and Sages, and they are "not born from a womb" (*ayonija*); and that also the living beings, who have a very wicked *karman* are born as insects, as a form of punishment, and they also are "not born from a womb" (*ayonija*).

The bodies "born from a womb" (*yonija*) again are of two kinds: viviparous (born from a placenta) and oviparous (born from an egg), and in both cases, the meritorious *karman* and the wicked *karman* determine the nature of the condition in which the body is to be born: to be born as a man is a better reincarnation than to be born as an ox (both viviparous), and to be born as a bird is a better reincarnation than to be born as a snake (both oviparous).

The Atomistic position of Praśastapāda in the theistic interpretation may be compared with the Atomistic theory of the Western French philosopher Pierre Gassendi (1592-1655) as explained in his *Syntagma Philosohicum* (Lyon, 1658), in *Opera Omnia*, 6 volumes.[16] Gassendi was considered by his contemporaries a great philosopher of the same level as René Descartes and Thomas Hobbes.

In this posthumous work Gassendi presents the last elaboration of his philosophical doctrines. In the second part concerning his *Physics* he gives an atomistic explanation of the world fundamentally based on Epicurus' atomism. The motion of the atoms, their connections and separations, are the cause of all that happens in this world and in the innumerable worlds in the unlimited universe, and all that is originated by the atoms is submitted to and order characterized by beauty and harmony. The atoms are entirely subordinated to God, the intelligent Creator and Governor of everything. Gassendi's originality lies in this combination of ancient Atomism and Christian Theology.

III. ARISTOTLE

Aristotle on spontaneous generation

Aristotle's classification of modes of generation

Aristotle in his books on diverse questions related to animals indicates dif-

16 On Gassendi's Atomistic theory see François Bernier (disciple of Gassendi), *Abregé de la Philosophie de Gassendi*, first published in 1674, in 7 volumes; Kurd Lasswitz, *Geschichte der Atomistik vom Mittelalter bis Newton*, Zweiter Band, pp. 126-188; Franco Volpi (Herausgeber), *Grosses Werklexikon der Philosophie*, Band 1: A-K, pp. 543-547; *Dictionnaire des Philosophes*, pp. 1094-1097; *Enzyklopädie Philosophie und Wissenschaftstheorie*, Band 1: A-G, pp. 706-708; José Ferrater Mora, *Diccionario de Filosofía*, Tomo II (E-J), pp. 1438-1440.

ferent forms to group and to classify them according to several criteria.[17] One of the most important or perhaps the most important of these criteria is that which depends on the *mode of generation* (*génesis/yoni*)[18]. Ross gives as reference *De generatione animalium* 732^a25-733^b16.

This same criterion is the one followed in the Indian classification of living beings by the Brahmanical tradition, by Buddhism and by Praśastapāda). This constitutes another point of coincidence between these two cultures, Greek and Indian, imposed by the same results which they reach through the observation of facts.

A very different criterion was the one elected in China by the authors associated with prince Liu An, who composed (around 139 B.C.) a work *Huainanzi* on a variety of topics on nature. They classify animals in five main groups not according to the way of being born but to what they are "covered" with: naked (exemplified by humans), feathered (birds), hairy (beasts), scaly (fish), shelled or armored (turtles). See G.E.R. Lloyd, *Aristotelian Explorations*, pp. 106-111.

Four of the groups studied by Aristotle in his treatises on animals (quoted here by Immanuel Bekker's edition), especially in *De animalibus historiae* (Vol. I. pp. 486-638), *De partibus animalium* (Vol. I. pp. 639-697), and *De generatione animalium* (Vol. I. pp. 715-789), interest us for the comparative purpose of this chapter: the "viviparous" (*ζωοτόκα*), the "oviparous" (*ᾠοτόκα*), "the vermiparous" (*σκωληκοτόκα*) (mentioned together in page 489^a34-35), and, the "produced by spontaneous generation" (*αὐτόματα*) (mentioned, for instance, in pages *AH* 539^a21-26; *AH* 539^b7-9; *AH* 547^b18-19; *AH* 550^b30-551^a8; *AH* 569^a24-30; *PA* 640^a28-29; *GA* 732^b11-14; *GA* 762^a8-763^b16; etc.).

Remarks on Aristotle's modes of generation

Coincidence between Aristotle fourth group and Buddhist third group

In fact the *fourth group* of "beings produced by spontaneous generation" in

17 It was impossible for Aristotle, due to the difficulty of the task, not to incur in contradictions and confusions in his researches on animals. Cf. E. Zeller, *Die Philosophie der Griechen* II, 2, pp. 559-563.

18 Cf. Sir David Ross, *Aristotle*, p. 116.

Aristotle corresponds with the *third kind* of ways of being born (*yoni*) in Buddhism: those "beings born from moisture or moist heat", although the word "spontaneous" has been wrongly applied by translators to the fourth way of being born: the *opapātika* or "apparitional" beings of Buddhism, as we have already said.

Examples of beings produced by spontaneous generation

We give some examples of beings that according to Aristotle are produced by spontaneous generation only in order to show the great variety of the small creatures among the more or less five hundred species of animals observed by him:

All testacea (*AH* 547^{b}19-20), jelly fishes (*AH* 548^{a}10-11), some insects (*AH* 539^{a}23-24, *GA* 732^{b}11-12, *GA* 758^{a}29-30), intestinal worms (*AH* 550^{b}30-551^{a}8), some fishes and bees (*GA* 759^{a}8-11), eels and 'earth-guts' or earthworms (*AH* 570^{a}3-24), some kind of fishes (*AH* 569^{a}10-13, and 24-30), horseflies or gadflies (*AH* 552^{a}29), ticks from dog's-tooth grass (*AH* 552^{a}15), animalcules (as the clothes-moth) in woolen substances, in cheese, in wood, in books, "in practically anything: in dry things that are becoming moist and in moist things that are drying" (*AH* 557^{b}1-12). Cf. H. Bonitz, *Index Aristotelicus, sub αὐτόματος*, p. 124b, and G.E.R. Lloyd, *Aristotelian Explorations*, Chapter 5: *Spontaneous generation and metamorphosis*, p. 117.

Places where beings produced by spontaneous generation are found

Aristotle mentions a great number of *places* where the spontaneous creatures are born, as for instance in *AH* 550^{b}32-551^{a}8: from *dew* falling on leaves, in *putrid mud or dung*, in *timber*, in the *hair of animals*, in the *flesh of animals*, in *excrements already voided or still within the living animal*; in *AH* 557^{b}1-12: *woolen substances*, *cheese*, *wood*, *books*, etc. Many of the *things*, expressly mentioned by Aristotle as *places where* the process of spontaneous generation occurs, also function as *matter out of which* spontaneously generated creatures arise.

In *GA* 762^{a}8-12 there is an important remark. Aristotle asserts (con-

tradicting what he has said in the two just quoted texts of *AH*) that *all* the living creatures *spontaneously born* come into being in connection with *putrefaction*. This opinion of Aristotle was followed in Europe, since "the usual medieval expression" for spontaneous generation "is *generatio per putrefactionem* (generation through a process of decay)"[19], what brings Aristotle's conception of spontaneous generation near to the third way of being born (i.e. born *from moisture produced by putrefaction*) in Indian conception of *yoni*.

Undoubtedly it is true that the great majority of spontaneously born creatures come from putrefaction, but spontaneous generation from non putrid matter is also possible according to Aristotle himself. For instance, in *GA* 551^{a}1-4 Aristotle mentions insects that are spontaneously born out of dew falling on leaves, as we have already said. Other examples of non putrid matter as origin of spontaneously born beings are: snow (552^{b}7), fire (552^{b}10-13), wool or articles made of wool (557^{b}1-4), books (557^{b}8-10). As Aristotle himself says, *GA* 552^{b}6-7, these substances seem to be not liable to decay or corruption, and nevertheless are the source of spontaneous generation. This remark applies to earthly or aquatic creatures.

Size of beings spontaneously generated

We have already seen that the oldest Buddhist texts mention as creatures *born from moisture* only *small beings*, but that afterwards also *big beings* were believed as being born from moisture. Moreover Buddhist texts accept also non animal beings to be born by spontaneous generation, as we have indicated in the section *Other conceptions on the* yonis *that seem of later origin* of this chapter.

In the West the process was different. Aristotle refers only to *small beings* (insects born in *putrefying earth or plants*) as examples of creatures *born by spontaneous generation* taking place *in putrid places*, which correspond to the creatures *born from moisture* in Buddhist classification. This restriction imposed by Aristotle and derived from the observed facts maintains in the next twenty three centuries among scientists and thinkers in Europe. As Henry Harris says, in his quoted book, p. 6:

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[19] Dag Nikolaus Hasse, "Spontaneous Generation and the Ontology of Forms in Greek, Arabic, and Medieval Latin Sources", p. 150.

"By the later years of the seventeenth century the only living things still widely believed to be generated spontaneously were insects, the smallest creatures then known ... Aristotle singles out insects as an example of spontaneous generation taking place in putrefying earth or plants ... and Harvey also discusses insects as an instance of life arising from inanimate matter".

Moreover, contrarily to Buddhism, Aristotle accepts only animal beings to be born through *spontaneous generation.* Let us firstly say that in Aristotle are found at least *four explanations* of the process that gives rise to *spontaneous generation,* as we shall see in what follows.

First explanation of spontaneous generation in Metaphysics *1034^{b}4-7: Two problematic consequences involved in it*

A short theoretical explanation of the process that leads to the coming forth of a living being by *spontaneous generation* is described by Aristotle in *Metaphysics* 1034^{b}4-7:

ὅσα δὲ ἀπὸ ταὐτομάτου ... γίγνεται, ὅσων ἡ ὕλη δύναται καὶ ὑφ' αὑτῆς κινεῖσθαι ταύτην τὴν κίνησιν ἣν τὸ σπέρμα κινεῖ·

"All the things which are produced spontaneously ... are those whose matter is able to be set in motion by itself with that motion which the sperm [usually] performs [in sexual generation][20]".

1. What Aristotle expresses in the quoted text is that a portion of matter may perform *by itself,* i.e. spontaneously, and *in itself* since there is no other element present there, the transformative motion (that normally the sperm performs in the process of *sexual generation,* in the female matter giving to it a form), and, as a consequence of this, a *spontaneously created being* is produced.

It is convenient to describe the process of *sexual generation* according to Aristotle to know the important specific function of sperm in it,

20 The sperm provided by the male parent *moves and changes* the *matter* provided by the female parent giving it a *form.* Aristotle here is or seems to be only dealing with the *material cause.*

and thus to be able to evaluate *the mention of sperm* in the quoted text of *Metaphysics* that *pretends to explain a process where there is no sperm: spontaneous generation.* This is the *first problematic consequence* we find in Aristotle's explanation of *spontaneous generation* in *Metaphysics.* In some way Aristotle is putting, without any further explanation or without the support provided by the observation of facts, *spontaneous generation* in the same level as *sexual generation.* It seems to us that we have here two models of processes absolutely incompatible. Let us see what Aristotle himself says on *sexual generation* in the words of a well-known specialist in the field of Aristotle's Philosophy and Biology.

James G. Lennox, *Aristotle's Philosophy of Biology,* p. 230, clearly describes the important function of semen in sexual generation:

"In sexual generation, the female contributes all *the bodily material... of the organism to be (GA 727b31-33, 729a11, a32, 730a16, a20, a27, 740b24). During copulation the male emits semen that possesses an inherent power (GA 727b16, 729b5, b27, 730a14, 740b35) or source of change (GA 724a11, b13-14, 730a27, 740b25) for the production of form, that is, for the organization of the female material into an organism of a specific kind. Semen operates not by adding material for growth (736a27) but as the agent that transmits the inherent warmth of the semen's* pneuma *to the material within the female."*

It is interesting to point out as a marginal remark the gender prejudice manifested in Aristotle's explanation of sexual generation, the hierarchical superior position of the *male* participant in sexual generation in relation to the female participant in Aristotle's explanation of sexual generation: the male supplies the "noble" *form,* the female only the "mean" *material support* on which the form is impressed. The negative evaluation of matter in ancient Greek thought is well-known. Cf. our book quoted in note 21, pp. 184-187, and 188. The prejudice in favor of men and against women so spread in many human cultures is reflected in this Aristotle's theory of sexual generation, which besides being prejudicial is a wrong conception. Cf. María Luisa Femenías' book, *Inferioridad y exclusión.*

Let us add to Lennox explanation another text of *De generatione animalium* 736^{b}33-737^{a}1, where Aristotle also expresses that in the semen exists the "so-called heat" which is both the *pneûma* (breath [of life]) and the nature (*phýsis*) (natural element or principle, the soul) which is in the breath [of life]. It is this "heat" or breath [of life] in which the soul abides,

that gives the semen its genetic power necessary for sexual generation. This nature (or natural element or principle or soul) is analogous –for Aristotle– to that element abiding in the stars.

In this text of *De generatione animalium* appears the word *pneûma*, which expresses a very important concept of Greek philosophy. Besides its original and most usual meaning of "wind" (*ánemos*), "air in movement" in any of the forms it can adopt, inside or outside the living body, it points out to a most important concept: the soul (*psyché*) which gives life, consciousness and movement to the living bodies, or that is the place where life abides. It is in this last sense that Aristotle uses it here.[21]

The text of *De generatione animalium* 736^{b}33-737^{a}1 we added to Lennox reference runs as follows:

> *πάντων μὲν γὰρ ἐν τῷ σπέρματι ἐνυπάρχει, ὅπερ ποιεῖ γόνιμα εἶναι τὰ σπέρματα, τὸ καλούμενον θερμόν. τοῦτο δ' οὐ πῦρ οὐδὲ τοιαύτη δύναμίς ἐστιν, ἀλλὰ τὸ ἐμπεριλαμβανόμενον ἐν τῷ σπέρματι καὶ ἐν τῷ ἀφρώδει πνεῦμα καὶ ἡ ἐν τῷ πνεύματι φύσις, ἀνάλογον οὖσα τῷ τῶν ἄστρων στοιχείῳ.*

> "In the semen of all [living beings which have semen] is found that which causes semina to be productive, the so-called 'heat'. This [heat] is not [ordinary] fire nor any such force, but the breath [of life] [*pneûma*] enclosed in the semen, and [especially] in its foamy portion, and it is also the nature [or natural element or principle, the soul found] in the breath [of life], being [this nature an element] analogous to the element of the stars."

For Aristotle in *spontaneous generation* only one element is involved: matter; in *sexual generation* two elements are essentially indispensable: the female material and the semen. In *sexual generation* the semen that has that specific task gives a form to the female material producing in this way a living being. In *spontaneous generation* the two elements, female material and form-giving semen are absent; there is only one element, a kind of matter, which by itself moves, and gives rise to a living being. Only one thing is common to both kinds of generation: *generation*.

2. Aristotle gives no indication of the cause of generation in the case of *spontaneous generation*, he only affirms that the kind of matter in *spontaneous generation* is set in motion *by itself*, introducing in this way

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21 Cf. C. Dragonetti and F. Tola, *On the Myth of the Opposition between Indian Thought and Western Philosophy*, pp. 100-103.

what we call the *second problematic consequence*: *the lack of cause*. In the just commented text of *Metaphysics* 1034^{b}4-7, he does not explain which is the *cause* of the evolutive movement in the inert matter, which is similar to the evolutive movement produced by the semen in the female material in sexual generation, and which will give rise to a spontaneously born creature.

If it is accepted that in the process of spontaneous generation the inert matter *by itself*, without any exterior (efficient) cause, can give rise to a movement similar to that of semen; and that this mere movement, again *by itself*, without the confrontation of the "female material" (material cause) and without the actual semen that gives a form to it (formal cause), can produce (efficient cause) a living being; *then* it would be necessary to accept that there is in nature a process for which *efficient, material, and formal causes do not exist* – what is contrary to Aristotle's well-known theory of causation, referred to in many passages of his works as for instance in *Metaphysics* 1010^{a}20-21, 1032^{a}13-14, 1033^{a}24-25, 1034^{b}16-18.

Second explanation of spontaneous generation in De generatione animalium *762^{a}8-12, and 762^{a}18-27*

This *second explanation of spontaneous generation* found in Aristotle, to which we shall refer in what follows, is completely different from the one found in *Metaphysics*. In fact it is the only one in Aristotle's work that gives a detailed account of the process that takes place in *spontaneous generation*.

Contrarily to Dag Nikolau Hasse's opinion (p. 152 of his article quoted in note 19) that in Aristotle "*the metaphysical and biological explanations of spontaneous generation seem compatible* ...", we consider that the numerous and deep differences between both hinder any compatibility.

In *De generatione animalium* 762^{a}8-12, and 762^{a}18-27, Aristotle explains which are *the elements* that are present at the birth of a spontaneously created living being. These texts run as follows:

> *De generatione animalium* 762^{a}8-12
> *ὅσα δὲ μήτε παραβλαστάνει μήτε κηριάζει, τούτων δὲ πάντων ἡ γένεσις αὐτόματός ἐστιν. πάντα δὲ τὰ συνιστάμενα τὸν τρόπον τοῦτον καὶ ἐν γῇ καὶ ἐν ὕδατι φαίνεται γινόμενα μετὰ σήψεως καὶ μιγνυμένου τοῦ ὀμβρίου ὕδατος.*

"All those [plants] which do not bud off or honeycomb [i.e. fill or penetrate in every part of something] have a spontaneous generation. And all those things constituted in this way [i.e. spontaneously], whether in earth or in water, seem to come into being in connection with *putrefaction accompanied by a mixture of rain-water*."

De generatione animalium 762^{a}18-24
γίνεται δ' ἐν γῇ καὶ ἐν ὑγρῷ τὰ ζῷα καὶ τὰ φυτὰ διὰ τὸ ἐν γῇ μὲν ὕδωρ ὑπάρχειν, ἐν δ' ὕδατι πνεῦμα, ἐν δὲ τούτῳ παντὶ θερμότητα ψυχικήν, ὥστε τρόπον τινὰ πάντα ψυχῆς εἶναι πλήρη. διὸ συνίσταται ταχέως, ὁπόταν ἐμπεριληφθῇ. ἐμπεριλαμβάνεται δὲ καὶ γίνεται θερμαινομένων τῶν σωματικῶν ὑγρῶν οἷον ἀφρώδης πομφόλυξ.

"Animals and plants come into being in earth and in moisture, because there is water in earth, and breath [of life] [πνεῦμα] in water, and in all that [breath of life] is the heat proper of the soul [ψυχική], so that *in some way all things are full of soul* [ψυχῇ]. Therefore [living things produced by spontaneous generation] form quickly whenever [it, *pneûma*, the breath of life with its inherent heat] is enclosed [in any putrid matter]. It [i.e. the breath of life with its inherent heat] is enclosed, and, the corporeal moistures being heated, there arises as it were a foamy bubble."

According to the two preceding texts the elements that collaborate to the production of *spontaneous generation from putrid matter* are thus *rain-water*, *breath [of life]* or *pneûma* and the *heat proper of the soul* inherent in the *pneûma*.

Moreover another text, *De generatione animalium* 762^{b}16-19, clearly and conclusively presents those elements as the cause of the spontaneously born creature, affirming that *the principle constituted by the soul and enclosed in the pneûma produces an embryo* [or in Botany: that which is swollen as the result of growth]. This "embryo" probably is that "foamy bubble" of *GA* 762^{a}18-24, but, be it so or not, the fact is that *the principle constituted by the soul and enclosed in the* pneûma *that on its turn has been enclosed in the putrid matter* [*GA ibidem*] *produces in this last one an embryo* (that is the beginning of the process that will end in the new living creature originated without the intervention of father and mother), *and puts motion in it* – in a way similar to what happens in sexual generation:

Τὸ δ' ἐναπολαμβανόμενον ἢ ἀποκρινόμενον ἐν τῷ πνεύματι τῆς ψυχικῆς ἀρχῆς κύημα ποιεῖ καὶ κίνησιν ἐντίθησιν. ἡ μὲν οὖν τῶν φυτῶν τῶν ἀπὸ ταὐτομάτου γινομένων σύστασις ὁμοειδής ἐστιν·

"That [portion] of the principle constituted by the soul [ψυχικὴ ἀρχή] which is either cut off and enclosed or set apart in the breath [of life] [πνεῦμα] makes an embryo and puts motion into it. The formation of the plants which are spontaneously generated is of the same kind."

Thus these elements which collaborate in the production of *spontaneous generation* are its direct and principal cause: *the principle constituted by the soul, the heat proper of the soul, the pneûma*; to them is attributed, in the terminology of sexual generation, the production of the "embryo" of the spontaneously born creature.

The following text of *De mundo* sheds more light on the notions of *pneûma* and *soul* (*psyché*) and corroborates the idea that both are, by their own productive nature, the direct and principal cause of spontaneous generation. Although this treatise (composed between 50 B.C. and 100 A.D.) cannot be considered as Aristotle's, it represents Aristotle's thought concerning the *soul* and the *pneûma* as is seen by its comparison with the Aristotelian texts we have cited.

De mundo 394^{b}9-11:
λέγεται δὲ καὶ ἑτέρως πνεῦμα ἥ τε ἐν φυτοῖς καὶ ζῴοις καὶ διὰ πάντων διήκουσα ἔμψυχός τε καὶ γόνιμος οὐσία.

"With another meaning [different from that of 'wind'] that *vital* [ἔμψυχος] and *generative* substance, which is found in plants and living beings and *pervades everything*, is called 'breath' [of life] [*pneûma*]."

This text clearly distinguishes the *pneûma* from the simple *air* (*ánemos*), and gives the name of '*pneûma*' to a substance *which has in itself life*, i.e. which is *vital*, and *is generative, which is within plants and living beings* and *which pervades everything*, giving thus to it a cosmic character.

And, similarly, 'soul' is declared to be the *cause and principle of life* and of movement in *De anima* 415^{b}7-12:

ἔστι δὲ ἡ ψυχὴ τοῦ ζῶντος σώματος αἰτία καὶ ἀρχή. ταῦτα δὲ πολλαχῶς λέγεται. ὁμοίως δ' ἡ ψυχὴ κατὰ τοὺς διωρισμένους

τρόπους τρεῖς αἰτία· καὶ γὰρ ὅθεν ἡ κίνησις αὐτή, καὶ οὗ ἕνεκα, καὶ ὡς ἡ οὐσία τῶν ἐμψύχων σωμάτων ἡ ψυχὴ αἰτία.

"The soul is the *cause* and *origin* of the living body. These [two terms] are used in many senses. But the soul is cause alike in the three ways recognized [by me], since it is the source of movement, and its end, and the soul is the cause of living bodies as their essence."

The same idea is expressed in *Ethica Eudemia* 1219^a23-24:

ἔτι ἔστω ψυχῆς ἔργον τὸ ζῆν ποιεῖν.

"Further, let the work of the soul be *to make living*."

The texts quoted in this section explain the spontaneous generation resorting to the intervention of the *pneûma* and the soul and its vital heat, which are captured by the putrid matter and are thus the cause of the spontaneously generated creature.

A marginal note on Aristotle's animistic approach

In *De generatione animalium* 762^a18-24, just quoted, is found a very remarkable assertion. Aristotle affirms that *in some way all things are full of soul* (*ψυχῆ*), because the heat proper of the soul is in the *pneûma*, which is everywhere, in earth and in water. It is a clear expression of an animistic approach to reality. This is not an isolated position in Greek thought. It is expressed before and after Aristotle.

In *De anima* 411^a7-8 Aristotle himself says that some thinkers consider that the soul is intermingled in the whole universe, and that probably for this reason Thales declare that "all things are full of Gods". Thales' dictum is referred to in *De mundo* 397^b17-18 as a consequence of the old belief, inherited from the Past, that all things are from God and have been framed by God and that nothing is self-supporting. Proclus, in his *Elements of Theology*, Proposition 145, also declares the same as Thales.

The belief in a Universal Soul or Spirit (*anima mundi*) is an animistic idea maintained also by Plato, Plotinus, the Latin poet Manilius, some Medieval Christian thinkers as Petrus Abelardus, many philosophers of the Renaissance as Cornelius Agrippa, Giordano Bruno, and afterwards Leibniz and Schelling, as we have explained in our book quoted in note 21, pp. 113-121.

This animistic approach should be taken into account when one intends an explanation of Aristotle's theory of spontaneous generation which by its own nature is connected with archaic patterns of thought.

Third explanation of spontaneous generation in De generatione animalium *737^a3-5*

It is amazing to find in Aristotle himself *other explanation* of the same process of spontaneous generation without the intervention of the *pneûma* and the soul and its vital heat.

In *GA* 737^a3-5, the teaching that the generative power, conferred on the *pneûma* and the other factors of a metaphysical nature mentioned in the just quoted texts (*GA* 762^a8-12, and 762^a18-27, is attributed to *other factors of physical and physiological nature* without the intervention of the *pneûma*:

ἡ δὲ τοῦ ἡλίου θερμότης καὶ ἡ τῶν ζῴων οὐ μόνον ἡ διὰ τοῦ σπέρματος, ἀλλα κἄν τι περίττωμα τύχῃ τῆς φύσεως ὂν ἕτερον, ὅμως ἔχει καὶ τοῦτο ζωτικὴν ἀρχήν.

"The heat of the sun and that of animals, not only that [which works] through the semen, but even whatever other residue [as excrement for instance = "*that which remains after the digestion of food* either as *a secretion* or *an excretion*" Liddle and Scott's *Greek-English Lexicon*] of natural origin there may be – [all] this possesses the vital principle [that gives rise to spontaneous generation, cf. *HA* 551^a6-8]."

Fourth explanation of spontaneous generation in Meteorologica *379^b6-8*

In Aristotle's *Meteorologica* 379^b6-8 is found a short text containing a concise explanation of spontaneously born creatures in the context of his analysis of the processes of becoming and destruction, in which he gives especial attention to *putrefaction* considered as a partial destruction:

καὶ ζῷα ἐγγίνεται τοῖς σηπομένοις διὰ τὸ τὴν ἀποκεκριμένην θερμότητα φυσικὴν οὖσαν συνιστάναι τὰ ἐκκριθέντα.

"Animals too are *generated in* putrefying things [submitted to a process of destruction] due to the fact that the expelled heat, that is natural [in them], combines the [elements of the putrefying things] secreted [from them]."

Putrefaction involves an own and natural heat existing in any moist thing; on putrefying the thing becomes dry and cold; but its inherent heat, concentrating, affects elements which constitute the putrid thing giving rise to the new spontaneously born creature.

In this explanation of spontaneous generation the emphasis is evidently put on the *natural process* and the *natural elements* involved in it.

The metaphysical vital heat, the *pneûma*, the soul, have no function neither here nor in the first explanation of spontaneous generation.

The problem of the diversity of species in spontaneous generation

The four Aristotelian explanations of *spontaneous generation* present *non-individualized factors* - such as a kind of matter moving by itself, or as principles constituted by the soul, the heat and the breath of life, or as the heat of the sun and the animals and any residue of natural origin, or as excreted elements of putrid matter combined by the heat inherent in matter - as the causes of spontaneous generation.

Then how is it possible that these *non-individualized factors* give rise in the putrid matter to *different species* of small animals spontaneously born, while in sexual generation the new born creature always is of the same species than the mother and the father what explains the difference among the diverse individuals that are born?

Aristotle in *De generatione animalium* 762^{a}24-27 maintains that the different degree of "honorability" of the species born by spontaneous generation is caused by the *different quantity of soul* retained by the putrid matter, and by the *quality of the specific places and matter* involved in the process:

αἱ μὲν οὖν διαφοραὶ τοῦ τιμιώτερον εἶναι τὸ γένος καὶ ἀτιμότερον τὸ συνιστάμενον ἐν τῇ περιλήψει τῆς ἀρχῆς τῆς ψυχικῆς ἐστιν. τούτου δὲ

καὶ οἱ τόποι αἴτιοι καὶ τὸ σῶμα τὸ περιλαμβανόμενον.

"The differences that consist in the species [of the spontaneously produced creatures] being more honorable or less honorable depend on what of the principle constituted by the soul [i.e. the portion of soul] is gathered in the [process of] inclusion [of the soul in the putrid matter]. And the *places* and [the specific kind of] the *matter* included [in the process] are also causes of that [= the differences in the species spontaneously born]."

Is it possible to *transfer* what has been said about the problem of the "*more or less honorability*" of the species of the small animals that are born by spontaneous generation to the problem of the *differences of species* among them, and to think that the factors (the portion of soul, the place in which the productive process occurs, and the matter), which cause the different degrees of honorability in the small animals that are spontaneously produced, are the same than those which give rise to the different species among them?

Some interpreters of Aristotle, as for instance James G. Lennox and Dag Nikolaus Hasse,[22] seem to explain the origin of the *diversity of species* in *spontaneous generation* in the system of Aristotle by accepting this *transference* as a premise.

In first place, let us say that unfortunately the explanation given by this text (*De generatione animalium* 762^{a}24-27) on *the more or less honorability* in the case of *spontaneously generated* beings, and its application to the problem of the *diversity of the species* in this kind of creatures is a *not valid hypothesis* inasmuch as the quantity and quality of the *soul* involved in the process cannot be exactly determined, and thus there is no way to convincingly establish that the different degrees of honorability and the differences of species are caused by different quantities and qualities of the soul involved in the process.

In second place, Aristotle does mention in several places of his treatises things (for instance earth, water, sea), *in which* processes of spontaneous generation occur, and many other things (for instance excrement, mud, dung, dew on leaves, wood, flesh, hair), *in which and from which* spontaneously born beings are produced. For Aristotle, as expressed in *De generatione animalium* 762^{a}24-27, in the case of these not sexually gener-

22 James G Lennox, *Aristotle's Philosophy of Biology*, pp. 232-233; Dag Nikolaus Hasse, "Spontaneous Generation and the Ontology of Forms", pp. 153-154.

ated creatures, also the quality of *local* and *material* factors involved in the process have influence in the nature "more or less honorable" of the new born.

This is only another instance of Aristotle's tendency to rank the nature of animals (including those sexually generated) and also of soul, in terms of "more honorable or not honorable", "good or bad", "honor and dishonor", "perfect or imperfect", "higher or lower", "ignoble", viewing them not from a biological but from an axiological or moral perspective. This perspective is very subjective and does not allow any solidly founded deductions. Cf. *De respiratione* $477^{a}11$-31, *Magna Moralia* $1205^{a}29$-$1205^{b}6$, *De generatione animalium* $736^{b}31$-33, $737^{b}8$-18.

Notwithstanding in what concerns the *place* and the *matter* this Aristotelian explanation of *De generatione animalium* $762^{a}24$-27 has to do with *empirical and objective observation*. Thus in some passages of his treatises on animals, Aristotle, relying only on *observation*, establishes a *fixed relation* between the *species* of the animalcules spontaneously generated and the *matter* and/or *place in* which and *from* which they originate and emerge.

For instance, Aristotle affirms in *HA* $551^{a}6$-10 that the *intestinal worms* are born either *from excrement* already voided, or from excrement yet within the living animal; and of these *intestinal worms* are *three species*: the *flat-worms*, the *round-worms*, and those called *ascarids*; and in *HA* $552^{a}15$ he says that the ticks (*Ixodes ricinus*) are generated *from dog's-tooth grass* (*Cynodon Dactylon*); in *HA* $552^{a}29$ that the horse-flies (*Tabanus*) are engendered *from timber*; and in *HA* $552^{b}4$-5 that the *gnats* come *from grubs that are born from the slime of vinegar*.

This could be a criterion discovered in nature by Aristotle that would allow to explain, at least in some cases, the *diversity of species* in *beings born* not from mother and father but *spontaneously*.

IV. FINAL REMARKS

Deficiencies, prejudices, mixture of intervening factors and motives of the research in the explanations of spontaneous generation

The *spontaneous generation* is a good example of how did Indian and

Greek thinkers frequently react when they had to face some problem that was beyond their understanding possibilities, on the one hand, because of their lack of some knowledge that was established after them (for instance, in the present case, the existence of living beings as microbes, bacteria, germs that are beyond normal human vision) and of the necessary technical devices (for instance, the microscope, etc.); and, on the other hand, because of their submission to ideas imposed by tradition or created or conceived by their own systems of philosophy or by the religion to which they adhere - ideas that offered a ready-made solution to the problem.

As a consequence of all these deficiencies and prejudices their research and conclusions many times are in both, Indian and Western thinkers, a mixture of factors of diverse nature in a more or less profound degree in the different thinkers:

1. ***Results*** derived ***from observations of facts*** (that may be valid or not valid but imply *a tendency to objectivity*).

2. ***Fanciful creations*** *linked to their own traditions and culture*, as legends, for instance.

3. ***Beliefs, based*** really only ***on faith*** and lacking the firm foundation of correctly observed facts or valid rational arguments.

4. ***Ideas, conceptions, doctrines, theories, concepts*** (whatever be the name given to them), characterized by a search of *rational explanations and a systematized presentation*, but that, because of the just mentioned limitations (ignorance or prejudices) proper of the time in which they have arisen, are many times *vitiated by the intromission of imaginary or merely mental elements*; or -what is a more serious defect- are constructed with evident logical rigor but assuming as their basis some entity whose existence has not been demonstrated[23] (as for instance: God, the soul in the West, reincarnation, *karman* in India), to which nevertheless all sorts of attributes and functions are gratuitously granted.

5. And what we have called "***cultural dogmas***"[24], i.e. those ideas,

[23] In Indian Philosophy *āśrayāsiddhi* is a kind of fallacy or defective reason, which consists in the "absence of prove" (*asiddhi*) of the "subject or support or abode" (*āśraya*) to which some characteristics are attributed. Thus a theory is constructed on the basis of something whose existence has not been proved, a very common defect of reason in Indian and Western thought.

[24] See C. Dragonetti and F. Tola, *On the Myth of the Opposition between Indian Thought and Western Philosophy*, especially pp. 265-267; "Unity in Diversity: Indian and Western Philosophical Traditions", in *Boundaries, Dynamics and Construction of Traditions in South Asia*, edited by Federico Squarcini, pp. 607-618; *La Filosofía Yoga. Un Cami-*

conceptions, doctrines, theories, concepts, *based on faith rather than on observation of facts and on valid rational arguments*, that are *almost unconsciously taken for granted*, being in fact *mere assumptions* proper to the culture to which one belongs, but which nevertheless possess an almost *absolute and universal authority*, and, as such, are the *fundamental support or basis* of the *religious* and *philosophical* and even *scientific* systems that are representative and characteristic of that culture.

The *unavoidable recourse to one's own "cultural dogmas"* to explain what at a determinate epoch was inexplicable seems to be a common procedure in the history of not only religious but also philosophical and even scientific thought in any culture.

Let us add, as another element to be taken into account in these final remarks, that in the case of *spontaneous generation* the ***motive or interest*** which impelled the Buddhist authors, Praśatapāda and Aristotle to start their investigation and to construct their theory was in each of them quite *different.*

Buddhism

- In Buddhism the ***central interest*** concerning the *forms of being born* and the *theory of spontaneous generation* (the *third* form of being born in Buddhism corresponding to the *fourth* in Aristotle) is not a scientific one, it is only a manifestation of Buddhist *preoccupation for the destiny of man* and of Buddhist will of acquiring sound knowledge of reality not for its own sake but in order to get Liberation from reincarnations.

- Anyhow Buddhism begins his explanation of the forms of being born (*yonis*) with a quite right classification of beings derived from ***observation of facts*** in a very simple way and without any further analysis or developments: there are *viviparous* beings, *oviparous* beings and *beings born from moisture* produced by putrefaction (without the intervention of mother and father).

From its very beginning Buddhism was characterized by its tendency to hold to observed facts, even if this had as a consequence to discard

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no Místico Universal, passim; *Filosofía de la India: Del Veda al Vedanta. El sistema Saṃkhya. El mito de la oposición entre* Pensamiento *de la India y* Filosofía *Occidental, passim.*

many established beliefs and ideas of the Indian tradition that preceded it. This search of ***objectivity***, for instance, made Buddhism leave aside the belief in the existence of God and of the soul traditionally accepted by Indian Culture.

In *Dīgha Nikāya* I, XIII *Tevijjasutta*, "The Sutta of the three *Vedas* [the most ancient and sacred texts of the Hindus]", Brahmins are criticized because *no one of them has ever seen* the Supreme God Brahmā, Creator of the Universe, *face to face* but notwithstanding all of them declare that they can teach the path which leads to God Brahmā, and the text compare them to a string of blind men walking adrift clinging one to the other. Thus the Buddha says to his disciple Vāseṭṭha:

> *Te vata Vāseṭṭha tevijjā brāhmaṇā yaṃ na jānanti yaṃ na passanti tassa sahavyatāya maggaṃ desessanti.*
>
> "Verily, Vāseṭṭha, those Brahmins versed in the three *Vedas*, show the path [that leads] to the companionship with Brahmā, whom *they do not know*, whom *they do not see.*"

And after that the Buddha adds, *n' etaṃ ṭhānaṃ vijjati*: "That is not possible".

In *Pratītyasamutpādahṛdayakārikā*, "Stanzas on the Essence of Dependent Origination", attributed to Nāgārjuna (1st century B.C.), the most outstanding thinker of the Mādhyamika School of Buddhism, is found a famous stanza that is an emblematical praise of Buddhist tendency to **objectivity**:

> *nāpaneyam ataḥ kiñcit nikṣeptavyaṃ na kiṃcana /*
> *draṣṭavyaṃ bhūtato bhūtaṃ bhūtadarśī vimucyate //*
>
> "Nothing from reality must be suppressed,
> nothing must be added to it,
> reality must be *seen* as it is in truth:
> who *sees* reality attains Liberation."

Thus for Buddhism knowledge must be ***objective***, must be limited to what one perceives, without adding to the representation in the mind or without suppressing from it any thing of any nature.

- Notwithstanding together with this factual approach to ordinary reality (limited in the case of *spontaneous generation* because of the Bud-

dhist lack of interest in biologic questions), there is in the Buddhist explanation of the ways of being born, and especially of the third and fourth ones (both not sexually generated), a plentiful accumulation of ***extra-ordinary or fanciful elements*** taken from Buddhist ***legendary traditions*** (men born from eggs, the five hundred sons of the King of Pañcāla, etc.); of own ***beliefs*** (supernatural beings as *yakṣas*, Gods, infernal beings, ghosts); and of ***conceptions or doctrines*** (the conception of the forms of existence or destinies of living beings, *gatis*; the theory of *opapātika* beings, connected with the form of being born of some living beings who cannot be produced by sexual generation, as Gods and infernal beings).

- Finally, what is more important for the comparative study we are doing on Western and Indian thought[25], let us point out that Buddhism resorts to the Indian ***cultural dogmas*** of *saṃsāra* or *reincarnations theory* and *karman* or *theory of retribution of acts* in order to explain *why* beings are born in the one or the other way of being born, which include *spontaneous generation.*

Praśastapāda

- Praśastapāda, who belongs to the Vaiśeṣika system of philosophy, the Hindu Philosophy of Nature, has as his ***central interest*** the *scientific* one of describing from the point of view of the atomistic conception the external world and the reality of things[26], not putting special emphasis on the study of living beings from the biological point of view.

- In Praśastapāda is also found ***observation of facts*** in his classification of the body of living beings, which includes the body "not born of a womb" (*ayonija*), as that of little insects[27], generated without sexual union, and the body "born of the womb" (*yonija*), generated by the conjunction of "semen and blood", as the bodies of the viviparous and the oviparous beings. Anyhow the theory of the *yonis* and *spontaneous generation* occupies

[25] Cf. our publications quoted in previous note 24.

[26] Cf. E. Frauwallner, *Geschichte der indischen Philosophie*, pp. 15 and 26.

[27] These "little insects" can be considered as being born by *spontaneous generation* since they are born without intervention of "semen" and "blood" – i.e. the sexual union. See note 10 and the corresponding text in this chapter.

a very insignificant place in Praśastapāda's treatise in comparison with his explanations of atomism and of the categories of "*Being and What There Is*" (W. Halbfass).

- Praśastapāda also mentions some Hindu ***beliefs***, whose only basis is Hindu tradition which transmits them, as that in *Gods* and ancient *Sages*, who because of their superior status cannot be normally born of a womb. And it is also a Hindu ***belief*** the idea that the small size of a body implies a punishment. Moreover, in case of a theistic interpretation of Praśastapāda, we have to add as another important ***belief*** the idea that there exists a *Supreme Being* to whom all is subordinate and who promotes, directs and governs the union of the atoms to create reality, i.e. the world and the living beings, taking into account the *karman* of beings, in order to give to each one of them a destiny or reincarnation (another important Hindu ***belief*** as well as that of *karman*) adequate to their merits and demerits.

- Most important ***conceptions or doctrines*** involved in Praśastapāda's Philosophy of Nature, concerning *spontaneous generation*, are his *theory of the material elements* (included in his theory of the *substance*, the first *category* of reality in his classification), and the *atomistic conception* of reality: the *body* is related to one of these elements, the *Earth*; the *atoms* - be it by the will of a Supreme Being or by the sole power of *karman* – unite in order to create the whole reality.

- Praśastapāda, as well as Buddhism, explicitly resorts to the not rationally founded Indian ***cultural dogmas*** of transmigration (*saṃsāra*) and retribution of acts (*karman*) as the final explanation of the question of the *yonis* and their cause.

Aristotle

- In Aristotle the ***central interest*** on the *fourth* means of reproduction or *spontaneous generation* from non-living matter is *clearly scientific* as that of Praśastapāda, but *in an incomparable extent*, taking into account the wide scope of his research on biologic themes, the number of the treatises he wrote on animals and plants, some of his lasting achievements in Biology[28], and his will expressly affirmed in *Meteorologica* $338^{a}20$-$339^{a}10$, of submitting to his research the whole reality, according to the normal plan

[28] Cf. Sir David Ross, *Aristotle*, pp. 112-114.

he had established for this purpose, "both generally and in detail" (καθόλου τε καὶ χωρίς).

However these positive statements must not lead us to overlook the insufficient explanations and even contradictions and obscurities found in Aristotle's treatises.

Some of these deficiencies are pointed out by E. Zeller in *Die Philosophie der Griechen* II, 2, p. 483, in relation to Aristotle's concept of the soul as presented specially in *De anima*:

> "*Thus the soul is nothing corporeal, and no determination which corresponds only to corporeal things can be bestowed on it. Nor it is without a body; Aristotle rather endeavors to show a particular substance in which it has at first its seat and with which it may pass at the moment of generation from one being to another. He designates this seat now as the heat* (θερμὸν) *now as the pneuma, and describes it as something related to the ether, of a nature more honorable than that of the four elements; but he cannot give us about its real nature any clear information which agrees with the other premises of his Physics.*"

A similar critical judgment is passed by W.S. Hett, translator of Aristotle's *De anima*, *Parva naturalia*, and *De respiratione* (The Loeb Classical Library), in his *Introduction*, pp. VII-VIII:

> "*In the treatises comprised in this volume, the philosopher is sometimes lucid and bald, sometimes involved and obscure, and sometimes even unintelligible, but very rarely brilliant in style* (p. VII); ... *unevenness of exposition. Some points are argued in full, some are only briefly outlined ... He pursues an argument in the direction in which Logic leads him, quite unmoved by any apparent absurdity in the conclusions at which he arrives* (p. VIII)."

Zeller's and Hett's criticisms on Aristotle's method and style in some of his treatises can be applied in general to all his work.

Moreover, it is necessary to have always present that, as it generally happens with any great thinker, the passage of time and the cultural progress has turned the greatest part of Aristotle's work into *antiquarian products*, what is more evident concerning his treatises on Biology which we are dealing with in this chapter.

One of the reasons for that is the fact mentioned by James G. Lennox, in *Aristotle's Philosophy of Biology*, p. XX:

> "*The distance between Aristotle's philosophical outlook and that which underlies modern biology*" ... "*Aristotle's philosophical understanding of nature in terms of substantial being, matter, form, nature, essence, definition, division, explanation, teleology, chance, and necessity shapes and informs his way of doing Biology*".

And Lennox makes himself two questions:

> "*What does Biology look like when it is based on such understanding?*", and "*Are there affinities between his approach and our own?*"

and he concludes:

> "*There are, no doubt, deep and far-reaching differences*".

Two other criticisms on Aristotle's biological works mentioned by Lennox may also be considered as reasons for their becoming obsolete: one is in *op. cit.*, p. 40: if one takes the *Historia animalium*

> "*as the classificatory ground work of Aristotelian zoology*"... [the treatise] ... is "*hopelessly inadequate*", because "*the taxonomic vocabulary is restricted to the two terms 'kind'* (genos) *and 'form'* (eidos)*, and these terms refer to groups of animals at all levels of the taxonomic hierarchy. There appears to be no concern for finding or consistently using certain features as classificatory markers in order to provide either a classification which is exhaustive or a hierarchy of* taxa *from widest to narrowest.*"

The other, also in p. 40, is that, if the *Historia animalium* is treated

> "*as a collection of 'natural histories', that is, as a series of more or less complete descriptive studies of each of the kind of animals discussed,... the work is even more disappointing*".

And Lennox quotes with relation to this point David Balme's assertion from his article "Aristotle's use of division and differentiae", in Gotthelf and Lennox, *Philosophical Issues in Aristotle's Biology*, p. 88:

> "*To any reader looking for information about given genera or species, the HA seems and incoherent jumble.*"

Finally, in *op. cit.*, p. 124, Lennox makes a remark that confirms

the different approaches of Aristotle's and modern Biology:

"It was not until the nineteenth century, with the advent of evolutionary, experimental and mathematical modes of thinking in biology, that theoretical biology developed a fundamentally different [from Aristotle's] research program (or programs)".

Of course Zeller's, Hett's and Lennox's opinions do not make us forget the great importance Aristotle had in the medieval period of Western culture, his encyclopedic knowledge, and his powerful speculative mind.

- Concerning the ***observation of facts*** nothing better than listening to Aristotle's own words in *GA* 760^b31-33:

τῇ αἰσθήσει μᾶλλων τῶν λόγων πιστευτέον, καὶ τοῖς λόγοις, ἐὰν ὁμολογούμενα δεικνύωσι τοῖς φαινομένοις.

... "Credit must be given rather to observation than to hypotheses, and to hypotheses only if what they maintain is in agreement with the observed facts".

In a general way Aristotle applied this norm of his own all along his research work on Biology. The exceptional number of the small animals he observed in order to give a well grounded explanation of what he called "spontaneous generation"; the great accuracy of his observations; and the detailed descriptions of the animalcules' behavior is a proof of his respect for this norm, a basic principle of scientific attitude.[29]

- Nevertheless it seems to us that all the previous remarks are valid for his Biology in the stages of recollection of materials and their description and classification, although with the limitation imposed by the critical remarks previously presented; but when Aristotle comes out from the descriptive study and faces the task of *explication* of facts things are completely different: he frequently abandons observation of facts and has recourse to many ***fanciful explanations*** derived sometimes from Greek ***beliefs and conceptions***, sometimes from ***ideas created by his own mind,*** as it is also the case in India.[30]

Thus in Aristotle are also found ***beliefs*** involved in his explanations

[29] On Aristotle observation of facts in Biology see also Anthony Preus, *Science and Philosophy in Aristotle's Biological Works*, pp. 40-42.

[30] Cf. Anthony Preus, *op. cit.*, pp. 48-107.

of *spontaneous generation* that are proper to the Greek culture he is immersed in and that are simple creations of the mind. Among these *beliefs* the most important is the adhesion to the existence of a *soul* (*psyché*), of ancient lineage in Greek culture, as the cause and principle of life and the source of movement of living beings, and whose nature is declared to be analogous to the nature of the stars; the *animistic approach* to reality condensed in his tenet: *all things are full of soul*; his conception of a vital and generative substance, the *pneûma*, that being the seat of the all-pervading soul also *pervades everything*.

- In Aristotle too there are many ***conceptions and theories*** of his own, which may be traced in the texts around *spontaneous generation*: the *mode of generation* as the selected *biological criterion* for the classification of animals (the same criterion followed also in the Indian classification of living beings); the ***theory*** *of sexual generation* or of beings sexually produced (as in Praśastapāda:) from "semen and blood", which serves Aristotle as model for his explanation of *spontaneous generation*; the ***idea*** that in sexual generation the *vital heat* / the *pneûma* / the *soul* is transported by the semen from the male into the female, and that, in an analogous way, in *spontaneous generation* the *vital heat* / the *pneûma* / the *soul* without the intervention of mother and father gives rise to a new born being, thanks, it seems, only to its all pervading nature which brings it into putrid matter; the ***concepts*** of *form and matter*, respectively corresponding in his theory of sexual generation to male and female; his ***conception*** of the *superior position of the masculine element* since it is the semen which contains in itself the vital productive principle and, on transmitting it to the inert matter, gives matter a *form* raising in this way its status; the ***concepts*** of *potentiality and actuality* intermingled in his *theory* of the soul; his ***doctrine*** of *causation* implied in both his theories of sexual as well as of *spontaneous generation*.

- Finally, also Aristotle, as the Indians authors do, appeals to the Greek ***cultural dogmas*** of *soul*, its *superior cosmic nature* similar to the stars, the *animistic approach to reality*, and the *prejudice of the inferior position of matter/female*, in order to explain *why* beings are born by *spontaneous generation*.

This comparative study concerning *spontaneous generation* in India and in Aristotle is another example of the force that always have had the irrational convictions and the cultural prejudices in the history of thought.

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